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GOVERNMENT SOCIAL SURVEY

Adult Dental Health in England and Wales in 1968

by

P.G. Gray, J.E. Todd,
G.L. Slack and J.S. Bulman

*A survey carried out for the Department
of Health and Social Security
by the Government Social Survey and the
London Hospital Medical College Dental School*

LONDON

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Lastly we would like to thank all the members of the public who agreed to take part. Their co-operation made it possible to achieve a very high rate of dental examinations.

PART I—INTRODUCTION AND BACKGROUND

1.0 INTRODUCTION

1.1 Purpose of the inquiry

This report presents the results of a survey of a random sample of adults aged 16 and over in England and Wales. The survey consisted of an interview carried out in the home, followed at a later date, by a dental examination also in the home. The survey was carried out for the Ministry of Health* and was conducted by a team of dental specialists and survey specialists. This is the first epidemiological survey carried out in the dental field, in this country, on a national scale.

The terms of reference for the inquiry were to provide information about the dental health of the community generally and to establish whether there was any regional variation in dental health. If a regional variation was found it was hoped that some explanations for such a variation would also be found.

In a survey of this kind, organised on a national scale and based on a random sample, it is possible to obtain information concerning the attitudes and dental state of a complete cross-section of the community. Such a cross-section includes that proportion of the population who rarely seek dental attention and who consequently seldom contribute to the statistics about dental treatment issued by the Dental Estimates Board.

The results of the survey are presented fairly fully; and although we may, at times, state the obvious, the previously well known and the proven, we hope that we have thrown more light on some of the reasons behind the situation as we found it. During the analysis there has been a constant need to put aside preconceived ideas; the combination of the two disciplines of survey specialists and dental specialists has, in this respect, been very valuable. Considerable effort has also been made to limit the use of specialist jargon from both fields. However, throughout the report there will be found certain word usages special to this report, resulting from the way the information was collected. These are defined on the occasion of their first appearance but thenceforward are used when necessary.

1.2 An outline of the methodology

The inquiry consisted of an interview followed at a later stage by a dental examination. Both were conducted in the home, but at different times. The persons to be interviewed were selected at random from the Electoral Registers for England and Wales. The initial sample was somewhat over 3,000 and some 125 interviewers and 44 dentists were involved in the fieldwork, which was completed in May and June 1968. We obtained interviews with 85% of the sample, and we examined 77% of the sample, that is 91% of those who were interviewed.

*Now part of the Department of Health and Social Security.

Government Social Survey interviewers made contact with the individuals selected for the sample and interviewed them. From the interview we obtained the informant's assessment of his own dental health, and some information about his dental habits and attitudes. At the end of the interview, he was asked if he would be willing to have a dental examination in the home. If permission was given, the interviewer made arrangements to return. When she and the dentist returned, the interviewer was responsible for making the introductions and she then acted as dental recorder during the examination. By having the interviewer as part of the dental team, we were able to carry over to the examination, the rapport which had been established in the interview. In this way we managed to minimise the possible loss in response between interview and examination.

The interview lasted from 30 to 40 minutes. The dental examination took less than 5 minutes, but the whole of the second visit, including the introduction, and the departure, frequently took considerably longer than the examination time might imply.

A full description of the methodology involved in the inquiry will be found in Section 2.0.

1.3 Basic definitions for the non-dentist

Natural teeth

The full complement of teeth for an adult is thirty two; sixteen in the upper jaw and sixteen in the lower jaw. In functional terms, the front six teeth in both jaws are cutting or incising teeth, and the remaining five on each side, are chewing teeth. The last tooth on each side, upper and lower, is sometimes called a wisdom tooth. This tooth does not always erupt, some people thus have a full dentition of only twenty-eight teeth. Whatever the initial level, subsequent disease or accident tends to reduce the number of natural teeth an adult possesses. The gaps which result from losses may be left as they are, or the remaining teeth may themselves move together, or treatment in the form of partial dentures may be provided, or in a few cases restorative bridgework may be done.

The process of tooth loss tends to continue with age and the rate of loss varies for different people. Many people eventually have all their natural teeth extracted and replaced by full dentures. Once a person has no remaining natural teeth he is called edentulous.

Dental disease and treatment

Dental disease can be divided into two main types. The disease which attacks the structure of the tooth, i.e. caries (decay) and the disease which attacks the supporting tissues around the tooth, i.e. periodontal disease (gum trouble). In addition to treatment for disease dental treatment may be required for conditions such as irregular tooth arrangements i.e. orthodontic treatment.

Treatment of caries (decay)

Teeth which are decayed can be treated in two ways. Either they can be extracted, or the decayed parts can be removed and the teeth filled.

Treatment of periodontal disease (gum trouble)

Periodontal disease occurs in different forms and degrees, and the treatment

required varies accordingly. In its most advanced state periodontal disease can necessitate the extraction of an otherwise sound tooth.

Orthodontic treatment (correction of irregular tooth arrangement)

In some cases where abnormal spacing or positioning of natural teeth occurs, dental treatment is required. It may necessitate the extraction of some teeth, and/or the fitting of a corrective device such as a wire brace.

Extraction of natural teeth

Once an extraction has been performed, it is impossible to assess from examining the mouth afterwards, whether extraction was made for reasons of caries, periodontal disease, or as a part of orthodontic treatment. Some sound teeth may be extracted because left on their own, they would not be functional, thus making extraction and replacement with a denture advisable. Teeth can be lost as a result of accidents, these being mainly front teeth, while others which appear to be missing on examination, may never have erupted. This is especially true of the third molar or wisdom tooth. Occasionally some teeth may never develop at all.

Teeth are not rigidly fixed in position in the jaws. Consequently once a tooth has been extracted, the remaining natural teeth may move and reduce or even fill, the gap from the extraction.

A denture

A denture is a removable plate with artificial teeth. In this survey a person who wears a full upper and lower plate is said to be a 'totally dentured person'. If a person has one or more of his natural teeth together with a denture, he is said to be a 'partially dentured person'. 'Partially dentured persons' range from someone with a denture to replace two front teeth knocked out as a result of an accident, to someone with 6 or fewer teeth left in the bottom jaw and the remainder, upper and lower, fitted with dentures.

1.4 Regional definition for this survey

As has already been explained in Section 1.1, a major part of the terms of reference for this inquiry was to discover whether there was any regional variation in dental health.

The sample was therefore designed to allow major regional comparisons. We decided on an overall size of sample which would support a division into three or possibly four regions. Regional comparisons are very expensive in resources because a sample which is sufficiently large and widespread for the detailed analysis required is needed in each region.

It seemed most sensible to define areas which were combinations of the widely used planning regions. From available statistics, such as the population per dentist, the planning region London and the South East was outstanding. At the other extreme of population per dentist, and taking into account geographical location, we decided on a region to include the planning regions Northern, North West, and Yorkshire and Humbersides, and to call it simply 'the North'. This provided us with two very well defined regions which would be our main testing ground for regional variation. There remained Wales, the South West, East and West Midlands and East Anglia. These areas are less densely populated than the two regions already defined, and the sample numbers

scarcely permitted a further division. Yet the geographical spread of the remainder seemed to call for two regions. We therefore combined Wales with the South West, and West Midlands with East Midlands and East Anglia.

Figure 1.1 shows the geographical boundaries of the regions used in this survey. They include the following planning regions.

<i>Survey region</i>	<i>Planning regions included</i>
The North;	Northern, North West, Yorkshire and Humberside
Wales and the South West;	Wales, South West
Midlands and East Anglia;	West Midlands, East Midlands, East Anglia
London and the South East;	London and the South East.

2.0 THE METHOD

2.1 Coverage and design of the sample

Our terms of reference covered the dental state of the whole of the population of England and Wales but there were a number of practical reasons why two groups were excluded from the inquiry. Children, particularly young children, would have needed a different approach to overcome the problems of interviewing by proxy through the parent, and obtaining parental permission for interview and examination. We felt that children were therefore best studied on some other occasion through the educational system. Consequently the age range of this study was confined to those aged 16 and over. The second group excluded was the institutional population. They were excluded largely because they present a difficult sampling problem. They amount to about 5% of the population and consist of people living in schools, colleges, training centres, hostels, hospitals, convalescent homes, old peoples' homes and so on.

Thus the population we set out to cover was adults aged 16 and over in private households.

For sampling purposes we were able to use the recently compiled 1968/9 Electoral Register* which provided an adequate sampling frame for adults aged 21 or over. We had then to devise a method for obtaining a supplementary sample of people aged 16-20.

2.2 The main sample from the Electoral Register

For the main sample drawn from the Electoral Register a two-stage sample design was used. An important consideration in determining the design was that our terms of reference called not only for national estimates but also for broad regional comparisons.

This, together with cost and organisational considerations, determined the type of first stage units used and their number. We chose to use parliamentary constituencies for our first stage units. These were suitable for our purpose since such areas are easily identified in the Electoral Register and have the organisational advantage of being roughly equivalent in the population they contain. In addition they were on the one hand not so small as to be unduly

*The adequacy of the coverage of the register is described in "Electoral Registration for Parliamentary Elections", P. G. Gray & Frances A. Gee.

Figure 1.1
The Survey Regions



influenced by the activities of one dental practice within them, but were small enough to avoid using too much of the examining dentist's time in travelling between selected people. We decided that a sample of 50 constituencies out of the 547 in England and Wales would be adequate. The 547 constituencies were stratified by region and by the ratio of the Conservative to Labour vote at the last general election. Fifty constituencies were then selected with probability proportionate to the electorate on the previous Register. It was necessary to use the previous Register's electorate because the new Register was not available at the planning stage, when it was required to fix the areas in order to recruit the dental examiners.

The second stage units were the people who were on the 1968/69 Register in the constituencies selected for our sample. From each constituency we drew a sample of named people who were selected with probability inversely proportionate to the electorate on the previous Register for that constituency. In this way the overall probability of selection of each individual over the two stages was equal. The planned size for the whole sample was about 3,300. This sample design results in approximately equal numbers of people being selected from each first stage unit and so the quota size was about 66 named persons from the Register per constituency.

All the persons in this main sample could be preselected from the Electoral Register and the interviewers were given lists of named individuals whom they were to contact. But the Electoral Register only includes people aged 21 or more, therefore to complete the age range down to 16 years it was necessary to devise a method of sampling in the field for those aged 16-20.

2.3 Obtaining a random sample of young persons aged 16-20

The main sample, already described in detail, consisted of a sample of named individuals randomly selected from the Electoral Register but excluding all local electors and persons approaching the age of 21 but too young to vote at the start of the life of the Register. This main sample was restricted to individuals in private households.

It was therefore necessary for the supplementary sample of 16-20 year olds to come from private households also, but no convenient list of persons aged 16-20 exists from which a sample can be drawn directly. It was therefore necessary to obtain a sample of private households and select all those persons aged 16-20 from such households.

It was possible to obtain a sample of private households from the main sample of individuals, taking the household that each person lived in. However the selected individuals had been picked with equal probability and therefore the households that they lived in would have a chance of inclusion proportionate to the number of names, from that household, on the Electoral Register. A sample of households obtained in this way would thus be biased, having too high a proportion of households with several people on the Electoral Register and too low a proportion with only one person on the Register. Before such a sample can be used it must be reweighted to correct this bias.

The reweighting method used was as follows. A household, as defined for Government Social Survey purposes, always has one person and one person only who is defined as the head of household. The chance that the named individual selected for the main sample is the head of household, is proportionate to the

number of adults in the household who were on the Electoral Register. Thus the chance that the person selected in the main sample is the head of household when only one name from that household was on the Register is 1 in 1. The chance that the person selected in the main sample is the head of household when there were three names from that household on the Register is 1 in 3. Thus if we subsample all the households obtained from the main sample of individuals, including only those households in which the named person for the main sample was the head of household, then we shall correct the bias. For example, if an individual selected for the main sample was one of three names from his household, then the household had three chances of being selected. But if we only include the household if this named person is the head of household, there is only a one in three chance of this being so, and we thus redress the balance.

This method of obtaining an unbiased random sample of households from which to select the young persons has the additional advantage that the number of young persons selected will be the right number of persons aged 16-20 compared with the size of the named person sample selected from the Electoral Register.

The reason is that the household sample was obtained from those named individuals who were found to be heads of household. These heads of household occur in the right proportion among the individuals randomly selected for the main sample. The young persons were selected from an unbiased sample of households. Since there is a one to one relationship between these households and the number of heads of household, then the number of young persons aged 16-20 will be the right proportion for the number of named individuals selected from the Electoral Register.

We added a further refinement to this design. From previous survey experience we knew that the Electoral Register was most deficient at the youngest age range. We therefore extended the sample of young persons to include people aged 21 last birthday, as well as those aged 16-20 last birthday. We later checked whether these 21-year-olds were already on the Register. If so, they had already had a chance of inclusion in the main sample, and were therefore excluded from the supplementary sample. If they were not on the Register, or were listed as Y voters (too young to vote at the start of the life of the Register) they were included in the supplementary sample.

Obtaining a sample of young persons from households connected with the main sample has the disadvantage that all the young people in the inquiry have another person, in this case the head of the household, being interviewed on the inquiry as well. On the other hand, this method has the advantage of being a fairly inexpensive way of obtaining a sample of young persons in private households. If the sample of young persons was to be completely independent of the main sample then the cost of obtaining the data for this age group would be very high indeed.

The sample of young persons was thus dependent on what circumstances were found when interviewing the individuals for the main sample. This process of field sampling, whatever the details of any particular scheme, is very difficult to control accurately.

In the population of England and Wales the 16-20 year old age group is about one tenth of the size of the age group 21 and over. The main sample comprised 3,207 individuals aged 21 and over, of whom 2,707 (84%) were

interviewed. Young persons were only picked up when the main sample informant had been interviewed and could provide information about other household members. Thus we might have expected to have picked up 10% of 2,707, or 270 people aged 16-20. This estimate assumes that the non-respondents from the main sample include the same proportions of head of household and young persons as those who were interviewed.

The final number of 16-20 year olds selected was 233. This was not as high as might have been expected, but response was good from those located. There are several reasons why the sample is deficient for this group. Firstly, private households made up entirely of persons under 21 years of age were missed by virtue of their exclusion from the Electoral Register. Secondly, a higher proportion of this age group are in institutions of one kind or another, schools, colleges, training centres, hospitals and so on. Finally, operating a sampling process in the field is always difficult and increases the chance of human error.

For example, when we checked the household composition of our main sample, we found a high proportion of 15-year-olds and a low proportion of 16-year-olds. This could have occurred by chance, but we decided to carry out a field check on a sub-sample of households to verify ages. Some errors were found but they only accounted for a small part of the variation. Another sampling problem arose through a misunderstanding which led to variation in interpretation of the instructions. A few interviewers assumed, on their own volition, that married women in the age range 16-20 could not be counted as young persons and therefore did not interview them. Fortunately the greatest consequences of this interpretation fell on the extension of the supplementary sample, those aged 21 last birthday. The error here was minimised since those already on the Register were to be rejected in any case.

2.4 The effect of extending the sample of young persons to include 21-year-olds

The refinement introduced into the sample of young persons necessitated a change of definition for the interviewers, which was not operated altogether successfully. Normally when a supplementary sample of young persons is chosen, only people aged 20 and under are required. In this scheme, however, we also included people aged 21 last birthday. By checking the household composition of the main sample afterwards, we found that although 50 persons aged 21 should have been picked up, only 34 were. In some cases it appeared that the change in definition was responsible for the omission, but in most cases it occurred for the reason already mentioned, that somehow the misconception crept in that a young wife did not constitute a young person. Where the head of household was a man with a wife aged 21, the wife, who should have been interviewed, was sometimes omitted. A certain proportion of these, however, would subsequently have been rejected as being on the Register already.

Thus 34 persons aged 21 were picked up in the supplementary sample. Ten of these were found to be on the Electoral Register and were therefore rejected. This left 24 in the sample. The main sample yielded 22 persons aged 21, although there were 47 aged 22, and 58 aged 23. By supplementing the main sample, we finally obtained 46 people aged 21, which is much nearer the correct size for a single year age group.

The cost of improving the sample of 21-year-olds, beyond that of interviewing the additional 24 persons, was the expenditure on interviewing and examining

the 10 who were later rejected when they were found to be on the Register already.

2.5 Planning an inquiry consisting of an interview followed by an examination

The survey was to comprise an interview which would obtain information about dental attitudes and habits, and a dental examination to assess the present state of dental health. At the outset, consideration had to be given to how these two parts of the inquiry would be best organised. If a measure of dental health is to be obtained from the examination and used in conjunction with the information obtained during the interview, then the two must be as close together in time as possible. Otherwise events overtake the situation and further dental visits may be made between the interview and the examination. Also experience suggests that if one is asking the general public to co-operate in a study with two phases, then response is best when the two phases are separated by only a short space of time.

This raises the question of whether the interview and the examination should be included in a single visit. This could be done in two ways. Either the whole interview could be conducted with the dentist present and if permission was given the examination could follow, or the dentist could be on call to do the examination at the end of the interview, if the informant agreed. The first alternative would be out of the question. It is highly likely that the presence of a dentist during the interview would influence the replies given. However the overriding disadvantage for both alternatives is a practical one. Having the two parts completed at the same visit would involve the dentists in considerable periods of non-productive waiting. The interview took between half an hour and an hour, whilst the examination itself took less than five minutes. The interviewer was concerned with all the people in her quota, but the dentist was concerned only with those who were interviewed and agreed to have an examination. If both had worked together all the time we would have needed as many dentists as we had interviewers. If, on the other hand, the examinations were done at a separate visit one dentist could work with several interviewers.

If two separate visits are involved then the question of who the personnel should be at the second visit arises. Once an interviewer has contacted an informant and built up a relationship with that person during the interview, culminating in an agreement to be examined, it would seem unwise not to be able to carry over this rapport to the examination. We therefore arranged that each interviewer would be dental recorder at the examinations of the people she had interviewed. The return visit was therefore conducted by the interviewer and the dental examiner. In this way there was no problem about transferring information to a new set of people. In addition there was no trouble in locating the informant and in making the introductions since the interviewer was already familiar to the person to be examined.

When two parts of an inquiry are to be carried out on separate occasions then this introduces the risk of losing some people between the time of the interview and the time of the examination. Steps must be taken to reduce this as far as possible. In this inquiry two factors probably contributed. Firstly, as we have said, the interviewer was to return with the dentist on the second occasion, thus maintaining the rapport she had achieved on the first occasion. Secondly, the interviewer and dentist planned regular and frequent sessions of

examinations throughout the field work period. Thus the time which elapsed between the interview and examination was minimised. In addition, as far as possible, appointments were made for the examination in terms of what day it would be and whether the morning, afternoon or evening was best.

At the beginning of each quota of work, interviewers spend a certain amount of time getting in touch with the people they are to interview and making arrangements for a mutually convenient time for interview. Consequently the rate of completed interviews is fairly slow at first. In any subsequent inquiry it would probably be better to give the interviewers a one week start before the examiners were made available. This in itself creates a problem however, since the dentists and interviewers are needed to be together for training before the field work begins. It is probably inevitable that some of the dentists' time must be devoted to waiting in the wings if the inquiry is planned to get maximum response with as little delay between the two stages as possible, and this must be borne as one of the costs of obtaining a dental examination of a random sample of the general population.

2.6 Design of the questionnaire

The people in the sample were expected to vary from one extreme to the other, from those having all of their natural teeth to those who had none. Clearly whole blocks of questions would be inappropriate to some sections of the population. A single questionnaire would therefore have been very bulky and difficult to operate in the field. In seeking for broad divisions, three groups of people seemed to have somewhat different needs and experiences.

1. People who rely entirely on natural teeth and have never had any form of denture.
2. People who have some natural teeth, but wear or have worn a partial denture.
3. People who have no natural teeth, most of whom have a full set of dentures.

Accordingly a separate questionnaire was designed for these three dental status groups. A common introductory questionnaire was used to establish the dental status of each person.

People with natural teeth only, were asked about the state of their teeth, their attitudes to treatment and pointedly to the thought of dentures. Details were obtained about their dental visiting habits, and the last course of treatment they had undergone.

Those without natural teeth were asked about the condition and efficiency of their dentures, if they had any. We collected information about the circumstances under which the last of their natural teeth were extracted e.g. the number of teeth extracted and whether partial dentures were worn before full dentures were needed. Again we obtained details of their last course of treatment.

Informants in our partial denture group were given the relevant questions for natural teeth and false teeth, with some additional questions about the history of their partial dentures.

When designing the questionnaires, it was necessary to keep in mind that the interview would be followed by a dental examination. We could not afford to exhaust the informants' good will and the length of the interviews was planned accordingly.

Copies of the questionnaires used are given in the Appendix.

2.7 The dental record sheet

It was planned from the outset that the data collected would be tabulated with the use of a computer. This was preferable to using card sorting equipment, since a far greater amount of detail could be fed directly on to magnetic tape and regrouped during the process of tabulation.

The dental record sheets were designed to contain three types of data: from people with some natural teeth, information was recorded about each tooth and its surrounding tissues, and from denture wearers, information about their dentures and any associated gum inflammation. In addition personal details such as age and sex were recorded.

The detail with regard to natural teeth was extensive. Each tooth or tooth space was recorded separately. Any fillings and decay present were recorded for individual tooth surfaces. Where gingivitis, pocketing, calculus, recession or loose teeth occurred, it was recorded against the teeth concerned.

The examination of the natural teeth was conducted with the examiner calling out the information in code to the interviewer for recording. The information regarding dentures, however, was recorded by the examiner himself.

One coding process was carried out before the data was put on to magnetic tape. The details that had been recorded for each tooth surface were summarised to give the state of health of each tooth. In this way a summarised classification was immediately available once the data had been put on to magnetic tape.

In addition to this summarised data all primary information was put on to magnetic tape in full detail. In this way, the ultimate grouping and presentation of the examination data could be determined more sensibly, on a basis of the variations found to exist. The record sheets were printed in blocks of interleaved automatic carbon paper so that two copies were obtained. A copy of the layout of the record sheet appears in the Appendix.

2.8 The examination team

An examination team was needed to carry out the work—someone to make the necessary introductions, a dentist to do the examination, and a dental recorder to record the information. It was realised at an early stage of the planning, that it would be of considerable advantage if the person who made the introductions at the examination was the person who had conducted the original interview. In this way the rapport achieved during the interview would be carried over to the examination situation. While the interviewer explained the procedure to the informants, the dentist would be left free to prepare for the examination. The next step was to record the information called out by the dentist. Since trained interviewers spend a lot of time recording information on documents of varying types, it was decided that resources would be best used if they were trained as dental recorders for the inquiry. Part of the briefing was therefore spent training the interviewers to do this. For the last part of the training course the interviewers and dentists were assembled, and a group of volunteers were examined under field simulated conditions. This gave the dental teams a chance to practise working together before the main fieldwork.

Thus a two-person team was sufficient to cope with the dental examination,

and to provide the further advantage of maintaining continuity between interview and examination.

2.9 The dental examination

The dental examination was carried out in the person's own home. From previous survey experience we knew that a much higher level of response would be achieved if the dental team visited those to be examined rather than if we asked them to attend a centre. Obviously it is less easy to standardise examination conditions in the home than in the surgery. One compromise is to use mobile dental trailers, but the cost of this method when the field work was all to be carried out within two months would have been prohibitive.

Not only are the conditions in a 'home' examination very different with respect to seating and lighting but the amount of equipment that the dentist can use is limited to that which is easily portable. The standard equipment for the survey dentist was a portable head light, a dental mirror, a few dental instruments and some sterilising equipment. These all packed away into an attaché case.

Since the amount of equipment that could be carried round by the dentist was limited, the scope of the examination was limited to the level of disease that could, in such circumstances, be detected. It is well known that with the use of X-rays, in addition to clinical examination, the amount of active decay that can be detected is considerably increased.

In this survey it was considered more important to obtain a high proportion of examinations at the 'home' level than to suffer considerable loss of response by asking people to attend a centre for examination.

We did not know at the planning stage that we would find a regional difference in the use of X-rays in the General Dental Service. We had not therefore anticipated that the lower level of detection of decay by clinical examination would have such a direct effect on the proportions of apparently sound and untreated teeth found in the different regions.

Some steps were taken to make the 'home' examination as standardised as possible. Firstly, of course, the dental examiners were trained in a standard form of examination (see next section). In addition the person to be examined was encouraged to sit in an upright chair rather than an easy chair for the examination. Also the dentist had a portable headlight to assist his vision.

The role of the interviewer during the dental examination was initially to make the introductions and explain what was needed for the examination, and then to be the dental recorder when the dentist called out the examination codes. This left the dentist entirely free to concentrate on the examination.

For people with natural teeth the examination consisted of examining and recording, for each tooth position, whether the tooth was present or not. If it was present, then information was recorded as to whether the tooth was sound, having had no treatment. If it was not then the presence of fillings and/or active decay were recorded for the tooth surfaces on which they occurred. Also the material of the fillings, amalgam, silicate or gold was recorded. If the tooth was in such a bad condition that it could not be restored this was recorded. Specialised forms of treatment such as bridges and crowns were also recorded. The dentist then examined the mouth again with respect to whether there was any gum

disease. This part of the examination is less easy to standardise as the diagnosis of the different gum conditions that were to be recorded, is very difficult.

For those people with dentures, either partial dentures or full dentures, the dentist made an examination and assessed their comfort, their fit, their physical condition and the care with which they had been looked after. He also assessed whether the dentures were causing any inflammation of the gums.

In addition any major feature of the mouth was recorded, for example, cleft lip, cleft palate, etc., but these occurred very rarely.

This fairly detailed examination took less time than one might expect. With training and practice, and with the help of the interviewer as dental recorder, a dental examination could be completed in less than five minutes.

There were forty-four dentists involved in the survey and obviously one of the problems was training them all to use a method of examination which was suitable for the 'home', a method somewhat different from that to which they were probably accustomed.

2.10 Training the survey dentists

The collection of dental data by examination, of a sample covering England and Wales, is a formidable task not previously attempted in this country. Basically there are two possible methods. Either a large number of dentists can be used to do a fairly small number of examinations over a short period of time, or a few dentists can be used to do a large number of examinations over a long period of time.

Although recruitment is a difficulty, there are distinct advantages in using a large number of dentists. The work is completed rapidly and the results are not only available sooner, but relate to the same point in time. The risk of a dental examiner reflecting specific personal ideas, and thus affecting the results, is reduced since it is spread over a larger number of examiners. The replacement of one dentist by a reserve in cases of illness or sudden lack of availability is less difficult with a large team. It is easier to find dentists who could make themselves available for two months, than to find dentists who would want to carry out this sort of examination full time for periods possibly exceeding a year. Also, when the examination data is to be analysed in conjunction with interview material, the interview and examination must take place as near together as possible. With a large force of interviewers available, the most efficient organisation of the dental examination was obviously to use the large team method.

None-the-less, this method does have some disadvantages. Although the effects of individual variation are spread by having a large team, this does not mean that every effort should not be made to reduce variation to a minimum. Training a large number of dentists to carry out a specific examination as uniformly as possible is a difficult task. Examiner variability in this field is well recognised but it can be reduced by a thorough training course. The problems of such a training course are certainly increased when using a large team of examiners. The range of assessments made at the outset is likely to be quite wide, but with training fair agreement can be reached.

Another factor which contributed to the decision to use a large team of examiners was that the dental schools in England and Wales might act as local controlling headquarters for the examinations in their area. Accordingly

controllers were nominated by the dental schools and this provided a very useful clearing house system when local difficulties arose. Initially all the dental schools in England and Wales were asked if there were any dentists from their schools who would like to take part. Secondly, an advertisement was put in the dental press. As a result 44 dentists were recruited. The dentists came from somewhat different backgrounds. Some were normally engaged in academic work, some were normally in general practice, some were from the school dental service, and others were retired from the forces. This variation in background meant that while some of the dentists were quite used to examining large numbers of people on a fairly simple basis, others were only used to examining a person prior to providing dental treatment.

The major purpose of the training course was therefore to explain the method and criteria for the 'home' examination to be used in this inquiry; and during the course the dentists practised this form of examination and learned the codes which they were to call out to the recorder. Initially, to draw attention to the importance of keeping to the criteria laid down for this 'home' examination, the dentists were asked to assess, on their own criteria, the amount of active decay in a series of blocks of mounted extracted teeth. The assessment was later done again using the 'home' examination criteria. This demonstrated the necessity of keeping to common standards when a large number of dentists were to be employed on one inquiry. The criteria that were to be used for the examination were determined by the circumstances of the 'home' examination, and are given in detail in the Appendix. It was particularly important that the amount of variation between dental examiners should be known. Part of the course was therefore spent in carrying out examinations on volunteer subjects, so that comparisons could be made between examiners.

Ideally, all 44 dentists would have carried out this examination on the same group of subjects. This was not in fact possible for organisational reasons. There were two three-day training courses, as the number of dentists to be trained was more than could be dealt with in one training session. In addition, it was felt that the volunteers could not be asked to undergo over twenty examinations in a short space of time. Consequently, in each of the training courses, both the dentists and the volunteers were divided into two groups, so that all of the dentists in each group examined every individual in one of the groups of 10 volunteers. The same volunteers were used for both training courses so that we finally had details about all 44 examiners who had examined one or other group of 10 volunteers.

The amount of variation which occurred in the number of teeth found in the different conditions is shown in Table 2.1. The figures show that as regards missing teeth and filled teeth (without further decay) the variation was very small indeed. A detailed look at the examination charts showed that an appreciable number of these discrepancies arose not from observation difficulties but from recording difficulties. This was probably affected by the fact that in this trial run the examiner had another examiner as recorder, both of them thus initially carrying out unfamiliar tasks. In the field situation the recorder was an interviewer who had been trained for this particular task and who, in any case, was familiar with recording data on complex forms. Recording was therefore not likely to have caused such difficulties in the field work.

Although a few minor alterations in method might improve the accuracy of the data about missing and filled teeth the variation is already very small. The

measurement of decay is less satisfactory, when these discrepancies were looked at in detail it was not so easy to detect explanations of why variations had occurred. A lot more investigation of the problems of training dentists for epidemiological work must obviously be carried out.

It must be remembered, however, that these examinations were carried out during the training programme and therefore contributed in the training process. It is very difficult to estimate how comparable these examinations were with the ones carried out during the fieldwork. The subjects in the training course were dental students and as such were obviously not representative of the general population, either in age distribution or in dental awareness and behaviour.

TABLE 2.1
Examiner variability

	Missing	Total filled	Filled otherwise Sound	Filled and decayed	Decayed not previously treated	Total decayed
Subjects 1-10, examined by 22 dentists						
(i) Mean	25.8	138.3	132.8	4.5	4.3	8.8
(ii) Variance	1.3	2.4	26.2	26.7	14.8	74.9
(iii) Standard deviation	1.1	1.5	5.0	5.2	3.9	8.7
(iii) ÷ (i)	0.04	0.01	0.04	1.15	0.89	0.98
Subjects 11-20, examined by 22 dentists						
(iv) Mean	32.8	96.7	91.0	5.7	2.4	8.1
(v) Variance	0.2	2.5	10.0	12.0	3.7	28.2
(vi) Standard deviation	0.4	1.6	3.2	3.5	1.9	5.3
(vi) ÷ (iv)	0.01	0.02	0.03	0.61	0.78	0.65

For example so few teeth were found with positive gum condition among the students that no measurement of variability among the examiners could reasonably be made. The students also had fewer missing teeth, more filled teeth and fewer decayed teeth than were found on average among the survey sample of people with natural teeth.

As an additional test on examiner variability the examiners and the same volunteers were asked to return a short time after the end of the fieldwork to repeat the examinations. The examiners did not know in advance that such a repeat process was to be carried out. As a result of this repeat performance it was again found that the main variation occurred in the measurement of decay. There was some variation for the same examiner over time but by far the greater part of the variation was between the different examiners on both occasions.

On the final day of the training course the dentists met the interviewers with whom they were to work. The complete procedure for interviewing and examining was demonstrated and then the dentists and interviewers practised working together on a group of volunteers. This practice session and the volunteers involved were completely unrelated to the test examinations described above. The field work commenced immediately after the three-day training course.

2.11 The co-operation obtained from the public

The first step in securing a reliable sample is to have an adequate list of names and addresses from which to draw a sample, and an efficient sample design. Nevertheless the representative nature of the achieved sample can still suffer unless a high proportion of the people selected is willing to co-operate. In this survey it was important that they co-operated in both the initial interview and the later dental examination, since interview data without examination data was of very limited use.

To obtain the initial interview we had to concern ourselves with three main sources of possible non-response. There were the people who would have moved from their registered address; others who would be difficult to find at home; and those who would be reluctant to co-operate. We expected to have some difficulties in persuading the public to co-operate on this survey. We were fairly confident of maintaining the informants' interest once the interview was underway, but we expected the introduction to be a difficult task for the interviewer. She had to reassure people who became nervous simply at the mention of the subject, and encourage others, particularly those without natural teeth, who felt they could not give any useful information. As expected our refusal rate proved to be higher than on other easier topics addressed to samples of the general population. It was 7.3% of the sample selected, compared with approximately 4% which we might expect on a less difficult personal inquiry.

The number of persons who were not contacted because they could not be found at home, was kept to a minimum by the normal Government Social Survey practice of insisting that interviewers should make at least three calls before abandoning an address. The loss on this account amounted to only 1.4% of the selected sample.

We also took steps to cut down the loss in response arising from people having moved from their registered address. This was done by carrying out the survey as soon as practicably possible after the compilation of the 1968/9 Electoral Register. Nevertheless we expected that something like 7 or 8% of people would have moved in the nine months or so since registration. Since we knew from past survey experience that about half of all moves are of a comparatively short distance, we instructed our interviewers to follow up anyone in the vicinity. Furthermore, we reallocated to interviewers working in other constituencies, the new addresses of people who had moved greater distances. In these ways we managed to reduce the loss due to movement to the unusually low figure of 4.0% of the selected sample. Other unavoidable losses brought the rate of failure to secure an initial interview up to a total of 15.2% of the selected sample. Thus an initial interview was obtained from 84.8%, a very high level of co-operation.

Our success in obtaining the dental examination depended in the first place on whether the interviewer obtained permission to return with the dentist. The need for this further visit was raised by the interviewer at the end of the interview, when a good relationship had been established with the informant. A considerable amount of persuasion was needed to overcome the public's reluctance to undergo a dental examination. Having the interviewer as examination recorder paid high dividends in this respect. She was able to tell the informants at the initial interview about the simplicity of the examination, and reassure them by the fact that she herself would be returning with the dentist. Even so a further

5.1% of informants proved unwilling for the interviewer to return with the dentist.

In an effort to prevent further losses, we tried to keep the interval of time between the interview and examination as short as possible. Seventy-one per cent of the revisits were made within a week of the initial interview. In all we failed to make contact a second time with 1.1% of the selected sample and a further 1.7% refused to be examined when the interviewer returned with the dentist.

Thus the proportion of the selected sample who were finally examined was 76.9%, being 7.9% less than the 84.8% who gave an initial interview. For an examination of such a personal nature this is a very high level of co-operation and we would like to thank the members of the public who agreed to have this examination. Further details about the people who were interviewed but not examined can be found in the Appendix.

TABLE 2.2
The co-operation obtained

		No.	%	
No initial interview obtained	Refused to be interviewed	254	7.3	15.2
	Selected person not contacted because:—			
	Had moved and could not be traced	140	4.0	7.9
	Out at all calls	47	1.4	
	Dead	33	1.0	
	Ill (in hospital or away from home)	19	0.5	
	Temporarily away	27	0.8	
	Miscellaneous reasons*	9	0.2	
Initial interview but no dental examination	Informant refused to make appointment for a dental examination	178	5.1	84.8
	Informant declined when interviewer returned with the dentist	58	1.7	
	Informant not contacted a second time for dental examination	38	1.1	
Interview and Dental Examination obtained		2658	76.9	
Total Sample Selected		3461	100.0	

*Wrong address visited, schedule lost in post, etc.

2.12 Processing the data

Once the field work was completed the information on the schedules was coded. This involved checking that codes were ringed on questions where pre-codes were already on the schedule. For some questions additional codes were used to classify answers which did not fit the pre-codes provided. In addition coding frames were drawn up for those questions for which answers had been recorded verbatim. The coding process is fairly time consuming since the operations carried out are extensively checked to minimise inconsistencies which would otherwise involve considerable delays at the computing stage.

When the coding was completed the information on the schedules was transferred to punch cards. The detail involved in the examination data resulted in a large number of cards being necessary. Every person with natural teeth but no partial dentures had 3 cards recording the interview data and 4 recording the

examination data. For people with natural teeth and partial dentures there were 4 cards recording interview data and 4 recording examination data. For people with no natural teeth there were 4 cards from the interview data and one for the examination data. The actual number of cards involved was thus close on 19,000.

The information on these punched cards was then transferred to magnetic tape for use on the computer. It was then possible to use the standard programme for survey analysis which has been developed by the Government Social Survey and which has the facility for including more specialised programming where necessary. We were very fortunate in having staff available throughout the period of analysis, to operate this programme and carry out any extensions that were necessary.

The interview information did not present any particular difficulties, as it was similar in form to other inquiries based on interviews. The information recorded in the examination provided more of a problem. Data had been collected for each one of the possible 32 tooth positions. The quantity of data collected was thus very large, but we did not wish to summarise it before transferring to magnetic tape, as this would have resulted in loss of detail. So it was punched and transferred in the full detail in which it had been collected. This provided us with the facility of combining the information in any way demanded by the analysis. The price paid for this flexibility was the volume of computer instruction required every time the examination information was to be used. During the process of analysis some of the more obvious groupings were generated and stored, but any change from these involved a fresh sub-routine which took still further preparation time.

One process carried out at the coding stage did help in the analysis. Each tooth was given a summary code denoting its state in relation to decay. This was a summary of the information which existed for each surface of each tooth.

The number of items of information which were available for analysis was very large indeed. Handling this quantity of data, without access to a computer, would be very difficult and very time consuming. The computer facilities which were available were used extensively.

It is fairly difficult to estimate the number of tabulations required, as much of the need is determined by the variation found to exist in preliminary tables. As soon as more than two variables are taken into account the number of tables required increases very dramatically. Tabulations are generally obtained in the form of a two-way classification. Once a third variable is introduced then the original two-way table has to be repeated as many times as there are classifications in the third variable. For example, a table showing dental status by region has to be repeated eight times if one needs to look at dental status by region with respect of seven particular age groups and all ages together. In this way the number of computer tables used can multiply very rapidly. This is, of course, particularly the case when there are several major sources of variation such as region, age, type of dental attendance pattern, which all have to be taken into account.

The effort and time which was expended in putting the material on to magnetic tape in its full detail has been amply rewarded by the flexibility that resulted. The decision about groupings would have been very difficult had they had to be made in advance of examining the results.

2.13 Demand and Need for Dental Care

Demand and Need for Dental Care—a socio-dental study

J. S. Bulman, N. D. Richards, G. L. Slack, A. J. Willcocks

As mentioned in the introduction, the above report is the result of a two-town study of dental health, and was the forerunner to the present national inquiry. When the two-town study was started, no-one in this country had previously tested out the possibility of a dental inquiry involving an interview, followed at a later date by a dental examination. The feasibility of this undertaking was thus tested and information collected about the population in the two places.

When a study is confined to two towns, the places selected are usually purposively picked, since two towns picked at random would not give an estimate of the nation unless all towns were similar. Consequently they are chosen because they are known to be different and thus a close study can be made of contrasting populations. Unfortunately it is usually the case that in advance of the study itself, and in the absence of national statistics, it is not easy to determine which places will be contrasting with regard to the subject under investigation, in this case dental health.

It is unwise, therefore, ever to make national estimates from a study of two towns, as the authors pointed out and refused to do themselves. However, the temptation to draw national conclusions when no other data was available has proved too great for others. National estimates have appeared in the press and other publications, and they are different from those which would be made from the national inquiry. For example, in Salisbury 42% of people aged 21 and over were found to be edentulous. In Darlington, the proportion was 50%. From the national inquiry, based on 50 constituencies, the level of total tooth loss among adults aged 16 and over is 37%. We would therefore estimate that about 13 million people in England and Wales have no natural teeth, a figure appreciably smaller than the erroneous estimate of 17 millions which was based on the two-town study and which has received considerable publicity.

3.0 BACKGROUND TO DENTAL HEALTH TODAY

The present level of dental health in the community is not necessarily a reflection of current policies. It is more a reflection of past policies and the dental attitudes of each person and the dental treatment each person has had over the years. In presenting data about the contemporary state of dental health, we are therefore inevitably concerned with the availability of dental treatment in the past and with the changing attitudes towards dentistry, both of those receiving treatment and of those providing dental treatment.

Though prevention is best, if conservative treatment is to be successful, conservation must be started when the teeth are first decayed, that is among children. We therefore look first at the specialist service provided for children under the school dental service.

3.1 The school dental service

The school health service, and through it the school dental service, has been in operation in some form since 1907. Every two years the Chief Medical Officer of the Ministry of Education publishes a report called "The Health of the School Child" in which developments in all spheres of the school health service are described.

As far as dental health is concerned the service appears to have been very understaffed since the inception of the scheme. It is difficult to judge exactly who the patients are and how many there are because children have three sources of treatment. They can be treated by a private dentist, or since 1948 under the National Health Service, or they can obtain their treatment through the school dental service. The school health service is organised separately for each local authority and is the responsibility of the Medical Officer of Health in each area. The principal school dental officer is responsible for the school dental service, which forms part of the school health service.

In 1956-57 a description of the first fifty years of the school dental service was included in the Chief Medical Officer's report for which the following was the introductory paragraph.

"From the earliest days of the School Medical Service the state of children's teeth has been investigated in many local education authority areas with an interest and shrewdness which indicate no lack of appreciation of the essential problems of children's dentistry. The great progress of the school dental service since 1907 has been more in its expansion, development and technical advances than in its attitude towards fundamental factors. There has, however, been an immense change in public opinion regarding the provision from public funds of dental treatment for school children, and this is reflected in the present-day attitude and policy of the central and local authorities."

It is of interest to trace the attitude towards fundamental factors through some of the early reports, for these are the attitudes which will have influenced the dental background of many of the people in our sample.* Although the quotations refer to the school dental service, there was in the early years a considerable number of dentists in general practice working in the school service on a sessional basis. It is probable, therefore, that the general views expressed were not confined to school dentists.

The Health of the School Child: 1939-45

War time modifications:—

... "In peace time, children in a country area who developed toothache during the interval between the periodical visits of the school dental officer had to seek relief from a private practitioner—the cost of this treatment being paid by the parent. This was not felt to be unreasonable, since in the great majority of cases the occurrence of toothache was the result of the parent's failure to take advantage of the routine facilities provided by the local education authority."

... "the treatment of children whose parents had failed to take regular advantage of past opportunities for treatment, should as a rule, be limited to extractions—allowance being made for those parents who showed a genuine change of attitude towards dental treatment"

... "teeth which are technically saveable should not as a rule be filled where there was evidence of persistent neglect of oral hygiene on the part of the child."

... "the number of children who should be treated by conservative methods should be limited to a number who could be thoroughly treated."

The Health of the School Child 1954-5

... "in a number of the earlier reports in this series, emphasis has been laid on the importance of making the best use of a limited school dental staff and the achievements of certain authorities make it clear that, with the right outlook, a dental officer can provide satisfactory standards of freedom from dental trouble, for appreciably more than 3,000 children; the actual numbers will depend to some extent on the attitude of the school population and of their parents. Any policy directed towards this end must involve some form of restriction, and judicious discrimination by dental officers in their offers of conservative treatment has consistently been advocated by the Ministry. Although

*The passages deal mainly with the unending problem of too few dentists and too many children with decay.

adequate conservation of children's teeth is regarded as the hall mark of a fully developed dental service, it should not be forgotten that the prevention and relief of pain and sepsis are of primary importance to the growing child."

The Health of the School Child 1956-7

... "To face squarely the problems arising from an insufficiency of dental officers and to adopt accordingly the type of service provided is sound administration; to cling stubbornly to procedures based on an assumption of ample staffing is not in the best interests of the school population as a whole, nor even of the children actually treated. In this connection the following passages from the annual reports for 1956 of two principal school dental officers deserve consideration:

- (i) "The aim, therefore, has been to provide the greatest number of children with urgent forms of treatment, such as relief of pain and the elimination of gross disease." (Stoke-on-Trent).
- (ii) "The ratio of filling to extractions (8:3) is perhaps the best indication of the policy followed here in Oxford of concentrating the limited means available on conservative treatment, giving a limited number of children the fullest possible treatment while offering an emergency service to the rest of the school population. This appears to be the only logical policy but is clearly entirely unsatisfactory."

"There are differences in the policies described by these two principal dental officers (conditions in the two areas are dissimilar) but the important point is that each officer has recognised the impracticability of providing a complete dental service in his particular local circumstances and has considered what, therefore, shall be provided instead. Some such form of discrimination in the offer of conservative treatment is more effective than a vain attempt to give full treatment for every child, which actually results in less benefit to the patients."

The Health of the School Child 1964 and 1965

	Number of pupils* per dental officer.
1959	6892
1960	6835
1961	6586
1962	6012
1963	5839
1964	5756
1965	5760

... "reference has already been made to the considerable variations from the average national staffing position and it is unfortunately the case that in those areas where there is a shortage of school dental officers there are also relatively few general dental practitioners. An extreme instance of this is described by Mr. H. E. Gray the Principal School Dental Officer for Derbyshire in his report for 1964. 'Barely a hundred (dentists) exist to serve a population of three quarters of a million with about 120,000 school children, and of these a mere half dozen endeavour to keep the school dental service alive.'"

So we have a picture of the school dental service and the scarce resources by which it has been plagued. The situation has resulted in recommendations of priority which have been variously interpreted within the service.

3.2 Before the National Health Service

There is not a great deal of data about dentistry before 1948 but from some of the comments made at the time it would seem that adult dental health consisted, for the vast majority of people, of the relief of pain. The method most commonly used to achieve this end was extraction.

The cost of any dental treatment fell on the individual. The cost of conservative treatment was high but the cost for extraction comparatively low. The cost of dentures must have been fairly high but people seem to have regarded such expenditure as a last cost before having no more dental trouble.

From 1911 onwards there was the possibility, if one came under the National Health Insurance Scheme, of getting financial aid towards the cost of dental

*Pupils in maintained schools

treatment. The Scheme was administered by non-profit making concerns called 'approved societies' which were often a part of a Friendly Society or Union or some other association of people with common interests. If the approved societies managed, over a period of years, to accumulate a surplus of funds then the members were at liberty to decide how this money should be spent. There were certain "additional benefits" under the scheme which could be incorporated if surplus money was available. One of these additional benefits was dental treatment. Each society was free to decide whether it would provide its members with all or part of the cost of dental treatment, whether it would assist with the cost of all forms of dental treatment, or whether it would restrict its help to the provision of dentures.

Thus dentistry under the National Health Insurance Scheme vied with other additional benefits such as ophthalmic requirements, and with other alternatives such as spending the accumulated surplus on higher sickness benefits. In any case the Scheme only covered certain categories of employed persons, so many people were never eligible for assistance this way. Some individuals belonged to Friendly Societies or Insurance groups and obtained a certain amount of cover that way. To provide for the needs of others in the community a large number of mutual benefit groups grew up to which individuals paid a certain amount each week against the possibility of trouble, for example the Hospital Saturday Fund and the Hospital Savings Association.

Some dentists organised their own groups and had patients contributing weekly amounts who were then provided with treatment when they needed it. Other people, who were not so organised, paid the dentist for necessary treatment at the time when it was required. In addition to the dentists in private practice there were some industrial clinics. Also some free hospitals and some mission clinics provided dental treatment, mostly in the form of relief from pain.

3.3 National Health Service dentistry

National Health Service dentistry began in 1948, organised on a contract basis with payment by fee per item of service. Any dentist who wishes to carry out work under the National Health Service has to be registered with his Local Executive Council. He is not restricted to carrying out National Health Service work only but can allot his time between private and National Health Service work as he sees fit.

There are two types of treatment which can be carried out under the Health Service. Firstly there is emergency treatment for the relief of pain. A dentist can carry out such treatment without any responsibility beyond the relief of pain. Secondly there is a contractual situation in which the dentist undertakes to make a patient 'reasonably fit dentally'. This contract is made with the patient and is binding for that course of treatment only. When more treatment is required a new contract is drawn up. The dentist is, however, in no way obliged to make a subsequent contract with a patient if he does not wish to. Nor is the patient obliged to seek future dental treatment from the same dentist. Thus a dentist can, if he wishes, specialise in the forms of treatment which he is prepared to do under the National Health Service. In such a case he would not accept patients who needed treatment that was outside his specialisation. In his own interests the dentist usually tries to build up a practice of people who will attend his surgery regularly for treatment. The goodwill which he builds up in this way

is often misinterpreted by the public who think a dentist has a list of patients for whom he is responsible, as with the general medical practitioner. With National Health Service dental treatment, there is no such responsibility.

With the advent of the National Health Service, restorative dentistry was for the first time, in theory anyway, generally available. At first it was free of charge and later a standard basic charge was introduced for all except privileged groups, together with charges for certain items such as false teeth and bridges.

3.4 Regional variations in population per dentist

The Dental Estimates Board in its annual report includes a table giving figures of population per dentist on a regional basis. Until 1965 the regions used were the Registrar General's standard regions. In 1966, however, the regional definitions were changed to those of the economic planning regions. There is therefore a discontinuity in the series and we use the 1965 situation to compare with the position at the beginning of the National Health Service.

TABLE 3.1
Figures from the Dental Estimates Board's Annual Reports
Regional variations in population per dentist

Economic planning regions	Civilian population per dentist practising in the general dental service		
	1966	1967	Survey regions 1967
North	6160	6140	5750
North West	5580	5490	
Yorks and Humberside	5860	5880	6070
Wales	6380	6340	
South West	4190	4130	4840
West Midlands	6260	6280	
East Midlands	6210	6030	4840
East Anglia	5460	5530	
London and South East { G.L.C.	2840	2850	3290
{ the rest	3830	3850	
England and Wales	4620	4600	4600

Registrar General's Standard Regions	Civilian population per dentist practising in the general dental service		
	1949	1965	Ratio* of 1965/1949
Northern	5400	5950	1.10
North Western	4100	5540	1.35
East and West Ridings	4700	5680	1.21
Wales	4300	6390	1.49
South Western	4000	4200	1.05
North Midland	5300	6400	1.21
Midland	5400	6130	1.13
Eastern	4900	4570	0.93
London and the South East	3700	3130	0.85
Southern	3800	3760	0.99

*A ratio larger than one indicates a deteriorating situation.

The figures of population per dentist are obtained by dividing the mid-year estimates of the civilian population by the number of dentists practising in the general dental services.

In 1967 (the latest available figures) the regional variation in population per dentist, using the individual planning areas, varied from under 3,000 per dentist in the area roughly equivalent to that of the Greater London Council, to over 6,000 per dentist in Wales, the West Midlands, the East Midlands and the North. For England and Wales as a whole the figure was 4,600 persons per dentist.

If we compare the present level for England and Wales with that which existed at the beginning of the National Health Service, it can be seen that the situation has deteriorated. The potential work load per dentist has increased.

The series of figures which enables us to compare regions changed its definitions of region in 1966 but we can make a regional comparison from 1949 to 1965. This shows that although the overall position in the country deteriorated over that period the deterioration did not occur at the same level in all parts of the country. In fact London and the South East, the Eastern Region and the Southern Region, more than maintained their position whereas everywhere else, especially Wales, lost considerable ground. Table 3.1 shows the ratio of the 1965 level of persons per dentist to the 1949 level. All ratios larger than one depict a deterioration in the situation.

Comparing the ratio of persons per dentist in England and Wales with that in the United States of America we find a very considerable difference. In 1967, taking into account active non-federal dentists only, there were 2,150 persons per dentist in the United States. This includes specialists, however, and the comparison may be more realistic if these are excluded, in which case there were 2,500 persons per dentist. Thus the United States is nationally better off for dentists than the best region (London and the South East) in this study.

The density of population per dentist in England and Wales compared with that of the United States suggests that the scarcity of dental manpower for providing conservative dentistry for the whole population is still a major problem in this country. The uneven distribution of population per dentist between the regions suggests that dental health will be much more affected by scarcity in some places than others. With the survey results we are in a position to examine in some detail the effects of the distribution of scarce resources and to establish where and on whom scarcity is taking its greatest toll.

PART II—PEOPLE WITH NO NATURAL TEETH

4.0 THE EDENTULOUS

An initial indication of the dental health of the community is the proportion of people who are edentulous i.e. have lost all their natural teeth. The results which we present for England and Wales are obtained from a measurement taken at one point in time, May/June 1968. Two things must be kept in mind when looking at the figures. Firstly, if a person had all his teeth out at 20 years of age and lives until he is 80 years old, his contribution to the edentulous population is a long one. Secondly, following from this, if changes in dental knowledge or public attitudes extend the life of natural teeth, the effect of this improvement in dental health will be overshadowed for a long time by the pattern of earlier years.

For example, one very fundamental change in the provision of dental treatment was the advent of the General Dental Service as part of the National Health Service in 1948. In the present study people aged 20 and under have had the opportunity of National Health Service dental treatment all their lives; and people under 35 have had most of their permanent teeth treatment since 1948. However for people who are 35 or over, ranging to people in their sixties, seventies and eighties, adult dental health patterns were at least partly established before the Health Service started. For many people in this last group their dental health status was well established before the Health Service. Of all the people in the survey who had lost all their natural teeth, just over 45% lost them before 1948. Thus a large proportion of those who, in 1968, were found to be edentulous had never been in a position to have treatment of their natural teeth under the National Health Service, although the service has been in operation for twenty years.

Great care must therefore be taken in interpreting and predicting from figures which relate to people of all ages, since the availability and range of dental treatment has changed so radically. The most useful comparisons will be between different groups of people of the same age range from different regions, so that opportunity for dental treatment has been similar.

4.1 Regional variation in total tooth loss in 1968

Of people in England and Wales, aged 16 years and over, 36.8% had none of their natural teeth. As can be seen from Table 4.1 this proportion varied considerably between the regions.

The most striking comparison was between the level of total tooth loss in the North and that found in London and the South East. The proportions were 45.5% and 28.4% respectively. The other two regions fell between these extremes. Wales and the South West, at 43.2% was nearer the level for the North, whereas the Midlands and East Anglia (33.9%) was more like London and the South East. This is a very large regional variation to occur on such a simple yet well defined classification.

TABLE 4.1
Dental status in the different regions

Dental status	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	%	%	%	%	%
People with some natural teeth	54.5	56.8	66.1	71.6	63.2
People with no natural teeth (Edentulous)	45.5	43.2	33.9	28.4	36.8
	100.0	100.0	100.0	100.0	100.0
Base (Adults 16 and over)	864	431	629	1008	2932

We continued to examine dental status to see whether there were other variables such as age, sex, and household social class, associated with different levels of total tooth loss, and whether any of these explained in any way why such a large regional variation exists.

We have already commented that more than 45% of people who have lost all their natural teeth lost them before the National Health Service began. Is the large amount of regional variation in the level of total tooth loss in fact confined to those who lost their teeth a long time ago?

TABLE 4.2
Dental status in the different regions, showing whether total tooth loss occurred before the National Health Service began

Dental status	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	%	%	%	%	%
People with some natural teeth	54.5	56.8	66.1	71.6	63.2
People edentulous since NHS began	25.0	21.8	19.6	15.2	20.0
People edentulous before NHS began	20.5	21.4	14.3	13.2	16.8
	100.0	100.0	100.0	100.0	100.0
Base (Adults 16 and over)	864	431	629	1008	2932

Table 4.2 shows that the regional variation in the level of total tooth loss is not in fact confined to those who had all their teeth out before the National Health Service began. The variation exists among both groups of edentulous people, those who lost their teeth over twenty years ago and those who lost them in the last twenty years.

4.2 Variations in total tooth loss with age

Since tooth loss increases with age and since dental attitudes change over time we examined the level of total tooth loss for people in different age groups. We show this for the separate regions since a large regional variation has already

been established. Table 4.3 shows for each age group and each region, the proportion of people who are edentulous.

TABLE 4.3
Total tooth loss for different age groups by region

Present age	Proportion edentulous				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
16-24	2.4% (125)	0.0% (49)	1.1% (95)	0.0% (126)	1.0% (395)
25-34	15.4% (136)	6.9% (72)	4.4% (114)	2.1% (193)	6.8% (515)
35-44	32.1% (159)	26.0% (77)	20.3% (123)	13.1% (191)	22.0% (550)
45-54	55.4% (139)	33.3% (60)	47.6% (105)	27.2% (173)	40.6% (475)
55-64	73.3% (190)	73.7% (80)	55.2% (105)	54.7% (159)	63.6% (494)
65-74	80.7% (109)	88.5% (61)	82.3% (62)	69.4% (111)	78.7% (343)
75 or more	93.5% (46)	87.5% (32)	88.9% (27)	83.6% (55)	88.1% (160)
All ages	45.5% (864)	43.2% (431)	33.9% (629)	28.4% (1008)	36.8% (2932)

Base numbers are given in brackets.

The variation in the proportion of people who were edentulous in the different age groups ranged from 1.0% of those aged 16-24 to 88.1% of those aged 75 or more. In the oldest group the regions were fairly alike, but in all younger age groups there was a large regional variation. For example, among those aged 35-44 in London and the South East, 13.1% were edentulous compared with 32.1% in the North. Similarly there was a large regional variation among people aged 25-34. In London and the South East 2.1% were edentulous compared with 15.4% in the North.

People under 35 at the time of the Survey were at most 14 years old when the Health Service started. Yet it would appear that despite this there is still a regional variation in the level of total tooth loss. With this treatment available, what still makes the risk of total tooth loss so much greater in the North than in London and the South East?

4.3 Variations in total tooth loss between the sexes

Next we examined whether the risk of being edentulous was greater for men or for women, given that age and region make a considerable difference.

As with Table 4.3 the figures in Table 4.4 show for each particular group the proportion who are edentulous. From the column showing figures for England and Wales it can be seen that in the age range 16-54 the proportion of women who have lost all their natural teeth is higher than the comparable proportion for men. The greatest difference is in the age group 35-44 years, where 28.0% of women were edentulous compared with 16.3% of men. From the age of 65 onwards the proportion of men and women who are edentulous is about level. Thus there is a tendency for women to lose their teeth earlier than men but by the time the older age ranges are reached the level of tooth loss is similar for both sexes. This means that overall in England and Wales a higher proportion of women than men are edentulous, 40.2% of women compared with 32.9% of men. Is this variation between the sexes similarly reflected in the regions?

The bottom row of the table shows the proportion of men and women of all ages, in the different regions, who are edentulous. In each region a higher proportion of women are edentulous. However, it is curious to see that the difference between the sexes is not the same for all regions. In London and the South East 26.7% of men and 29.9% of women were edentulous, whereas in the North the proportion varies between 39.3% for men and 50.8% for women. If we look at the different age groups we can see at what age this large divergence between the sexes in the North occurs. The two age groups which contribute most are 35-44 years and 45-54 years. In the former 24.7% of men but 39.7% of women were edentulous. In the latter 47.2% of men but 60.5% of women were edentulous.

Thus women in the North accounted for a large part of the regional difference in total tooth loss.

TABLE 4.4
Total tooth loss for different sexes, ages and regions

Present age	Sex	Proportion edentulous				
		The North	Wales and the South West	Midlands and East Angles	London and the South East	England and Wales
16-24	Male	1.8% (57)	0.0% (35)	0.0% (65)	0.0% (56)	0.5% (183)
	Female	2.9% (68)	0.0% (24)	2.0% (36)	0.0% (76)	1.4% (312)
25-34	Male	12.2% (78)	9.4% (32)	0.0% (35)	3.5% (92)	5.9% (253)
	Female	19.4% (62)	3.0% (40)	3.5% (39)	1.0% (101)	7.6% (282)
35-44	Male	24.7% (81)	10.3% (37)	15.9% (69)	11.6% (93)	16.3% (282)
	Female	39.7% (78)	40.0% (40)	25.9% (54)	14.6% (94)	29.0% (268)
45-54	Male	47.2% (53)	30.4% (23)	45.0% (60)	22.3% (72)	36.1% (208)
	Female	60.5% (56)	35.1% (37)	51.2% (43)	30.7% (100)	44.2% (267)
55-64	Male	69.7% (75)	69.4% (26)	56.6% (53)	52.9% (87)	61.1% (232)
	Female	77.0% (74)	77.3% (64)	53.8% (52)	56.9% (72)	66.1% (242)
65-74	Male	80.0% (45)	93.5% (31)	73.0% (24)	66.0% (47)	77.6% (147)
	Female	81.2% (64)	83.3% (36)	66.8% (38)	71.9% (64)	79.6% (196)
75 or more	Male	100.0% (13)	88.9% (9)	83.3% (12)	82.6% (23)	87.7% (57)
	Female	90.9% (33)	87.0% (23)	93.3% (15)	84.4% (32)	88.3% (103)
All ages	Male	39.1% (399)	39.4% (193)	30.2% (318)	26.7% (472)	32.9% (1382)
	Female	50.8% (445)	46.2% (238)	37.6% (311)	29.9% (536)	40.2% (1556)

Base numbers are given in brackets.

4.4 Total tooth loss and household social class

We extend the analysis to include another factor, household social class. We have classified people by the social class of the head of household in which they live. Initially we show, for England and Wales, the level of total tooth loss in the individual household social classes. In subsequent tables the social classes have been grouped into professional, managerial and skilled non-manual together, skilled manual, and thirdly semi-skilled and unskilled. The small group of people from households where the head of household was a housewife, a student, unemployed or not classifiable, are not included as a separate group but are included in the total columns. This grouping has been necessary since some classes on their own would be too small for further detailed analysis.

Table 4.5 shows that for the category 'housewife' the level of total tooth loss is very high. This is because many of the households with housewives as head of household are made up of elderly widows. The 'others' category includes a small

group of people for whom the head of household was a student, or was unemployed or for whom the information obtained was insufficient for classification.

TABLE 4.5
Total tooth loss and household social class

Household Social Class*		Proportion edentulous	
		England and Wales	
Professional	} Social class I Social class II Social class III—non-manual	27.1 %	15.2 % (112)
Managerial and			31.0 % (503)
Skilled non-manual			25.1 % (335)
Skilled manual	Social class III—manual	33.9 %	(1074)
Semi skilled and	} Social class IV—non-manual Social class IV—manual Social class V	46.3 %	47.0 % (100)
unskilled			45.8 % (419)
			47.1 % (153)
Housewife		67.9 %	(181)
Others†		38.2 %	(55)
All social classes		36.8 %	(2932)

*Individuals are classified by social class of the head of household in which they live.

†Students, unemployed and not classifiable.

For the social classes IV non-manual, IV manual and V the proportion of edentulous people was very similar (47.0%, 45.8% and 47.1%) and considerably higher than the other social classes. Social class I, a fairly small group numerically, had the lowest level of total tooth loss (15.2%). Social class III non-manual contained a higher proportion of people who still had some of their natural teeth than Social class II, whilst social class III manual had a slightly higher proportion of people who were edentulous (33.9%).

In the next four tables we examine the level of total tooth loss for different social classes, sexes, regions and ages. To do this the social classes have been grouped and the residual groups of 'housewives' and 'others' have been excluded from the body of the tables but included in the totals. In addition the age groups previously used have been amalgamated into three, 16-34, 35-54 and 55 years and over. Table 4.6 gives the results for people of all ages, Table 4.7 includes only those aged 16-34, Table 4.8 includes only those aged 35-54 and Table 4.9 shows those aged 55 years and over.

Looking at England and Wales as a whole, the level of total tooth loss varies from 27.1% among both sexes in Social class I, II and III non-manual to 46.3% for social class IV and V. Is this range similar for all regions? In the North comparable figures are 29.5% and 57.3% respectively; in London and the South East the figures are 21.4% and 37.1% respectively. For social class I, II and III non-manual there is a regional variation but this is small compared to the variation between different social classes. For social class IV and V, the semi-skilled and unskilled, there is not only a marked difference from other social classes but there is also a large regional variation.

We have already seen that women contribute to a large extent to the higher level of total tooth loss in the North. If we examine the differences in social class,

with respect to sex, we see that for women, the range in the level of total tooth loss is from 31.5% to 63.6% in the North and from 23.9% to 35.5% in London and the South East. The proportion of women who have no natural teeth is generally higher than the proportion of edentulous men, for all social classes. However there are one or two combinations of region and social class for which the proportion of total tooth loss is very much higher among women than men. In social class IV and V in the North, 63.6% of women were edentulous compared with 50.0% of men. Similarly there was a considerable difference between the sexes in this social class in Wales and the South West (52.4% of women; 45.8% of men).

TABLE 4.6
Total tooth loss by household social class, sex and region for
people of all ages

Household Social Class	Sex	Proportion edentulous				
		All ages				
		The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
I, II and III non-manual	Male	23.4% (117)	31.9% (72)	24.2% (91)	18.5% (178)	24.0% (458)
	Female	31.5% (124)	40.1% (71)	19.3% (87)	21.9% (226)	29.9% (462)
	Both	29.5% (241)	36.1% (144)	21.7% (178)	20.4% (387)	27.1% (950)
III manual	Male	42.5% (167)	42.4% (66)	28.4% (136)	28.9% (180)	34.8% (549)
	Female	44.0% (168)	40.2% (87)	22.6% (104)	22.9% (166)	33.0% (525)
	Both	43.5% (335)	41.3% (153)	25.5% (240)	25.9% (346)	33.9% (1074)
IV non-manual IV manual and V	Male	30.0% (100)	45.6% (48)	18.7% (60)	18.9% (95)	43.3% (323)
	Female	43.6% (118)	52.4% (42)	43.9% (82)	35.5% (107)	49.0% (749)
	Both	37.3% (218)	48.9% (90)	41.4% (142)	27.1% (202)	46.3% (672)
All* Social Classes	Male	39.1% (399)	39.4% (193)	30.2% (318)	26.7% (472)	32.9% (1382)
	Female	30.8% (465)	46.2% (218)	27.6% (311)	29.9% (536)	40.2% (1550)
	Both	45.5% (864)	43.2% (431)	33.9% (629)	28.4% (1008)	36.8% (2932)

Base numbers are given in brackets.

*These totals include the housewife, student, unemployed and unclassifiable categories which are not included elsewhere in the table.

We have here been considering people of all ages. In the following paragraphs we examine the proportion of edentulous persons with respect to sex, social class and region for separate age ranges. Among the younger age groups (16-34 and 35-54) we shall see that the differences between the sexes are not confined to one social class. Among the oldest group, (aged 55 or more), however, there is such a predominance of edentulous persons that the difference between the sexes disappears. Consequently the differences among people of all ages that we have been examining (Table 4.6) are only the combined results of age, sex, social class and region. We now go on to examine the separate age groups in detail.

The tables which deal with the particular age groups are subject to some erratic variation because of the fairly small numbers in many groups. Table 4.7 deals with those aged 16-34. For this age group there is a marked regional variation for all social classes, including social class I, II and III non-manual. The vast majority of the edentulous young are, in fact, located in the North. In addition to this general high level of total tooth loss in the young in the North, there is a substantial variation with social class. These factors together with the higher proportion of total tooth loss among women combine to make women of social class IV and V, in the North, the group most prone to total tooth loss among the under 35's, reaching a level of 18.2% edentulous. This is of particular

note as there were no edentulous persons found, in our sample, in this age group in social class IV and V in London and the South East.

TABLE 4.7
Total tooth loss by household social class, sex and region for
those aged 16-34

Household Social Class	Sex	Proportion edentulous				
		Aged 16-34				
		The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
I, II and III non-manual	Male	2.7% (27)	0.0% (23)	0.0% (27)	1.4% (62)	1.3% (138)
	Female	4.4% (35)	0.0% (20)	0.0% (23)	0.0% (72)	2.0% (130)
	Both	3.6% (72)	0.0% (43)	0.0% (50)	0.7% (134)	1.6% (268)
III manual	Male	8.3% (60)	10.0% (20)	0.0% (36)	3.7% (34)	5.3% (170)
	Female	6.4% (59)	3.4% (39)	3.7% (37)	1.4% (62)	4.4% (263)
	Both	7.4% (119)	6.1% (48)	3.4% (69)	2.6% (116)	4.8% (373)
IV non-manual IV manual and V	Male	14.0% (27)	7.7% (13)	0.0% (22)	0.0% (23)	5.0% (85)
	Female	16.0% (33)	0.0% (38)	10.0% (29)	0.0% (28)	9.0% (100)
	Both	16.7% (60)	4.3% (23)	5.9% (51)	0.0% (51)	7.6% (145)
All* Social Classes	Male	7.6% (131)	5.5% (57)	0.0% (100)	3.0% (144)	3.7% (436)
	Female	10.8% (138)	3.1% (64)	5.5% (109)	0.6% (171)	4.6% (474)
	Both	9.2% (269)	4.1% (121)	2.9% (206)	1.3% (319)	6.3% (910)

Base numbers are given in brackets.

*These totals include the housewife, student, unemployed and unclassified categories which are not included elsewhere in the table.

Among the age group 35-54 there is generally a higher level of total tooth loss than we have been examining among the under 35's. From the variations previously discussed, one might anticipate that the largest difference in the level of total tooth loss among those aged 35-54 would be found when comparing men of social class I, II and III non-manual, in London and the South East with women from the North of social class IV and V. From Table 4.8 the figures are 9.4% of the relevant group of men compared with 74.2% of the relevant group of women. Considering that these figures refer to people who are in the same age range (35-54 years) this variation is very large indeed.

TABLE 4.8
Total tooth loss by household social class, sex and region for
those aged 35-54

Household Social Class	Sex	Proportion edentulous				
		Aged 35-54				
		The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
I, II and III non-manual	Male	17.0% (39)	9.5% (21)	33.3% (38)	9.4% (66)	16.9% (160)
	Female	28.8% (52)	28.6% (28)	25.8% (31)	21.8% (78)	23.4% (189)
	Both	24.2% (91)	20.4% (49)	29.9% (69)	16.2% (142)	21.5% (249)
III manual	Male	36.6% (37)	23.8% (23)	21.0% (66)	30.6% (88)	28.2% (239)
	Female	34.1% (76)	46.9% (13)	33.3% (30)	30.8% (72)	38.8% (204)
	Both	47.3% (113)	37.7% (33)	23.4% (56)	30.7% (149)	32.3% (443)
IV non-manual IV manual and V	Male	42.9% (38)	25.0% (16)	46.2% (26)	23.3% (30)	35.5% (107)
	Female	74.2% (31)	30.0% (12)	33.3% (30)	23.3% (41)	47.4% (116)
	Both	57.6% (68)	35.7% (28)	50.0% (28)	23.3% (73)	41.7% (223)
All* Social Classes	Male	33.6% (134)	19.3% (60)	29.5% (129)	16.8% (167)	24.7% (460)
	Female	30.6% (164)	37.7% (77)	37.1% (87)	22.8% (197)	36.1% (535)
	Both	40.0% (298)	29.2% (137)	32.7% (236)	19.4% (264)	30.6% (1025)

Base numbers are given in brackets.

*These totals include the housewife, student, unemployed and unclassified categories which are not included elsewhere in the table.

In this age range a higher proportion of women than men have lost all their natural teeth in all social classes and all regions except London and the South East. Here the overall level of female total tooth loss is only higher than the male because in social class I, II and III non-manual the level for men is very low (9.4%), for all other groups the levels are almost identical. In the other regions there are very large variations with sex and social class. The greatest differences in total tooth loss occur in the social classes which show both sex and region variations. For example, for social class III manual 54.1% of women in the North were edentulous compared with 20.8% of women of that social class in London and the South East. An even greater difference occurs in social class IV and V. Here 74.2% of women in the North were edentulous compared with only 23.3% in London and the South East. Although not as high as the North, the majority of women in this social class in the other regions were also edentulous. What makes social class so important dentally in some regions and so unimportant in others?

We examine next the oldest age group, those aged 55 or more. The overall proportion of people who were edentulous has risen steeply with increasing age. Among those aged 16-34 4.3% were edentulous, among those aged 35-54 30.6% were edentulous, among those we examine next, aged 55 or more nearly three-quarters (72.7%) were edentulous.

TABLE 4.9
Total tooth loss by household social class, sex and region
for those aged 55 or more

Household Social Class	Sex	Proportion edentulous				
		Aged 55 or more				
		The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
I, II and III non-manual	Male	20.5% (41)	72.4% (29)	55.6% (18)	50.0% (52)	53.9% (140)
	Female	56.8% (37)	87.5% (34)	63.8% (33)	35.0% (39)	62.7% (153)
	Both	37.7% (78)	79.8% (53)	60.4% (51)	53.2% (111)	60.4% (293)
III manual	Male	88.0% (50)	84.0% (25)	72.2% (36)	62.1% (38)	75.1% (169)
	Female	83.9% (35)	79.1% (26)	61.8% (31)	68.9% (32)	73.5% (134)
	Both	87.1% (85)	78.4% (51)	68.4% (57)	64.4% (90)	74.6% (283)
IV non-manual IV manual and V	Male	81.6% (38)	89.3% (19)	86.4% (32)	71.4% (42)	74.0% (121)
	Female	85.2% (34)	80.0% (20)	73.9% (23)	77.8% (26)	80.3% (133)
	Both	83.7% (92)	84.6% (39)	65.2% (55)	74.4% (78)	77.3% (264)
All* Social Classes	Male	76.1% (134)	81.6% (78)	65.2% (299)	61.1% (127)	69.7% (436)
	Female	81.3% (171)	81.4% (87)	71.4% (105)	67.0% (168)	75.2% (541)
	Both	79.0% (305)	81.5% (175)	68.0% (194)	64.6% (325)	72.7% (977)

Base numbers are given in brackets.

*These totals include the housewife, student, unemployed and unclassifiable categories which are not included elsewhere in the table

Among those aged 55 or more, differences between sexes, regions and social classes were not as vast as the differences seen in other age groups. The variations were of a pattern consistent with the earlier discussions. Those who lived in London and the South East and were of social class I, II and III non-manual had a level of 53.2% edentulous. Those of social class IV and V in the north had a level of 83.7%.

We have thus established that total tooth loss varies with age, sex, social class and region. The two most surprising results are that the variation between the sexes operates at a different level regionally, and that there is a regional

difference that is independent of age, sex, and social class. If the reason for this regional variation could be established, then there might be considerable opportunity for improving dental health merely by reducing regional inequality.

4.5 Total tooth loss in England and Wales compared with the United States of America

We have been examining the variations in total tooth loss that exist among adults in England and Wales. We now examine how the levels compare with those in the United States of America. The United States' continuous health survey provides data directly comparable with the survey results. In Table 4.10 the results are compared for different ages, sexes and regions. For ease of reference we repeat in this table figures which have already been presented earlier in this section.

TABLE 4.10
Total tooth loss in England and Wales compared with the United States of America for different ages and sexes and for the regions

Present age	Sex	Proportion edentulous					
		The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales	U.S.A.
16-24	Male	1.4% (37)	0.0% (25)	0.0% (45)	0.0% (58)	0.5% (143)	1.3%*
	Female	2.9% (68)	0.0% (24)	2.0% (30)	0.0% (78)	1.4% (212)	1.4%*
25-34	Male	12.2% (74)	9.4% (32)	0.0% (35)	3.3% (92)	5.9% (233)	2.7%
	Female	19.4% (62)	5.0% (40)	0.5% (59)	1.0% (101)	7.6% (262)	6.1%
35-44	Male	24.7% (81)	10.8% (37)	15.9% (49)	11.6% (95)	16.3% (282)	5.9%
	Female	39.7% (78)	40.0% (40)	23.9% (54)	14.6% (96)	28.0% (268)	10.1%
45-54	Male	47.2% (53)	30.4% (33)	45.0% (58)	22.2% (72)	36.1% (208)	20.0%
	Female	60.8% (86)	33.1% (37)	51.2% (43)	30.7% (101)	44.2% (267)	20.1%
55-64	Male	69.7% (76)	69.4% (36)	56.6% (53)	52.9% (87)	61.4% (252)	34.7%
	Female	77.0% (74)	77.3% (44)	53.8% (52)	36.9% (82)	66.1% (242)	38.0%
65-74	Male	80.0% (45)	93.5% (31)	79.0% (26)	66.0% (47)	79.6% (147)	43.1%
	Female	81.2% (64)	83.3% (38)	66.8% (36)	71.9% (64)	79.6% (196)	57.0%
75 or more	Male	100.0% (13)	88.9% (9)	83.1% (12)	82.6% (23)	87.7% (37)	55.7%*
	Female	90.9% (33)	87.0% (20)	93.3% (15)	84.4% (32)	88.3% (103)	65.6%*
All ages	Male	39.3% (399)	39.4% (193)	30.2% (318)	36.7% (672)	32.9% (1382)	16.5%*
	Female	50.6% (465)	46.2% (238)	37.6% (341)	29.9% (536)	40.2% (1556)	19.7%*
	Both	45.5% (864)	43.2% (431)	33.9% (659)	28.4% (1008)	36.0% (2932)	18.1%

Loss numbers are given in brackets.

*In the American Survey the age range studied was restricted to those aged 18-79. Consequently the age groups 16-24 and 75 or more are not fully covered by the American statistics.

In the United States the system of obtaining dental treatment has not changed radically as it did in this country when the National Health Service began. Obviously over time dental techniques and public attitudes do change, but it is probably reasonable to say that on the whole the level of total tooth loss among the over 55's in the United States, is the level which is generated by the amount of total tooth loss existing among their present day young. Thus the overall level in the next 20 years is not likely to drop dramatically below 18.1% in the United States of America.

In England and Wales, however, there has been a radical change in the system. Dental treatment has been available on the National Health Service since 1948. If this system has resulted in any improvement in dental health, then the level of total tooth loss among the young will generate, over the next twenty years, a different overall level of total tooth loss. One might well see a

considerable improvement in the proportion of people in England and Wales who have no natural teeth. In addition, of course, dental health in the next twenty years may benefit from further advances in the control or prevention of decay, such as a general introduction of fluoridation or the possibility of other scientific developments.

Although this is only supposition a more detailed examination of total tooth loss by age gives additional support to the hypothesis. Among those whose dental treatment has been largely carried out within the health service (i.e. those under 35 years) there is not a great deal of difference between the levels in England and Wales and those in the United States. It is only after this age and particularly from 55 years old onwards that the divergence between the two countries becomes great.

A single measurement at one point in time is insufficient to measure improvement but these figures do suggest that the change in the system in this country has had some effect.

If we compare the American figures with the regions then we find that for those under 35, London and the South East is achieving a lower level of total tooth loss than the United States as a whole while the North is considerably higher. In London and the South East it is not until one compares the 55-year-olds and over that total tooth loss becomes appreciably different from the United States. Thus if the causes of the regional differences between the north and the south could be established and total tooth loss could be reduced in the North to the level in London and the South East, then it would seem that the level of total tooth loss in England and Wales over the next twenty years or so, might be more than halved. A substantial part of this reduction would of course be due to the loss by death of the people in the older age groups who reflect dentistry before 1948.

4.6 Total tooth loss before the age of thirty

The changing state of dental health over time can only be adequately measured by repeated surveys. Since no earlier national figures are available for England and Wales we are restricted to a fairly limited comparison of total tooth loss over time. We have made conjectures in Section 4.5 about what might be the future level of total tooth loss by comparing total tooth loss at various ages in this country and in the United States. One other indication of whether or not the situation is changing, is to look at people in specified age ranges and see what proportion of them were edentulous at a younger age. This will show whether the age of total tooth loss is in general being raised.

We have taken as our indicator the proportion of people who had lost all their natural teeth before the age of 30. By using this age we can examine those at present aged 30-34 as our first age group. Thus we have one age group who have had the possibility of dentistry within the National Health Service at least since they were 14 years old. Persons aged 65 or more were excluded from this analysis because this age range will be seriously depleted because of death. The oldest people we consider in this analysis are therefore those aged 55-64, and they give us the picture of full clearance of all natural teeth before the age of 30 as it was more than 25 years ago. In Table 4.11 we show for each age group the proportion of people who were edentulous before they were 30. Men and women are shown separately.

TABLE 4.11
Total tooth loss before the age of thirty

Present age	Proportion edentulous before thirty		
	England and Wales		
	Male	Female	Both sexes
30-34	3.9% (129)	5.3% (131)	4.6% (260)
35-44	4.3% (282)	10.8% (268)	7.5% (550)
45-54	5.8% (208)	9.4% (267)	7.8% (475)
55-64	9.9% (252)	12.4% (242)	11.1% (494)

Whatever the present age there was a higher total loss of teeth before thirty among women than among men. The figures showed an overall improvement for successively younger age groups. For both sexes together the proportion had been reduced over the last thirty years or so from 11.1% edentulous before the age of thirty to 4.6%. The fairly considerable reduction for the age group 30-34, 4.6% compared with 7.5% of those aged 35-44, is brought about mainly by an improvement for women.

Region has played a large part in variations in the general level of total tooth loss. On examination we find that it is also a very important factor when considering the level of total tooth loss at an early age. Although the base numbers are very small there is, nevertheless, a very distinct pattern overall.

Table 4.12 shows that in all regions the situation has been improving over time, but in London and the South East the improvement has been over the range 5.7% to 2.2% whereas in the North the comparable range is 15.3% to 8.3%. With one or two exceptions there is a consistent pattern in all the regions, of women being more likely than men to experience early total tooth loss. The improvement that has been achieved in the North would appear to have been brought about entirely in an improvement among the men. In London and the South East, on the other hand, the difference between the sexes is very much smaller and improvement over the years has benefited both sexes.

Regional differences, especially with respect to women, appear to have long standing origins. Time is bringing with it improvement, but improvement seems to come more readily to areas which are already relatively better off in terms of total tooth loss.

We are of course dependent on memory for the older people but we think that the occasion of final tooth loss is a fairly memorable event, and no other measurement is available to us.

4.7 The reasons for total tooth loss

Although the measure of total tooth loss is, itself, a fairly simple one, the factors which accumulate to bring about total tooth loss in any individual are very varied. A retrospective investigation such as this, is hampered by the fact that once the teeth have been extracted then the evidence relating to their state of health and the situation leading up to full clearance has disappeared. Despite this complexity we have already seen that there is a large variation in risk of total tooth loss for different groups of people in the community. Many people lost the last of their teeth a long time ago, in circumstances which are very

TABLE 4.12
Total tooth loss before the age of thirty by region

Present age	Proportion edentulous before thirty		
	The North		
	Male	Female	Both Sexes
30-34	4.8% (42)	13.3% (30)	8.3% (72)
35-44	6.2% (81)	19.2% (78)	12.6% (159)
45-54	7.5% (53)	16.3% (86)	13.0% (139)
55-64	14.5% (76)	17.6% (74)	15.3% (150)

Present age	Proportion edentulous before thirty		
	Wales and the South West		
	Male	Female	Both Sexes
30-34	16.7% (12)*	4.2% (24)	8.3% (36)
35-44	5.4% (37)	15.0% (40)	10.4% (77)
45-54	4.3% (23)	13.5% (37)	10.0% (60)
55-64	13.9% (36)	22.7% (44)	18.8% (80)

Present age	Proportion edentulous before thirty		
	Midlands and East Anglia		
	Male	Female	Both sexes
30-34	0.0% (29)	3.2% (31)	1.7% (60)
35-44	4.3% (69)	7.4% (54)	5.7% (123)
45-54	8.3% (60)	4.6% (43)	6.8% (103)
55-64	9.4% (53)	3.8% (52)	6.7% (105)

Present age	Proportion edentulous before thirty		
	London and the South East		
	Male	Female	Both Sexes
30-34	2.2% (46)	2.2% (46)	2.2% (92)
35-44	2.1% (95)	4.2% (96)	3.1% (191)
45-54	2.8% (72)	4.0% (101)	3.5% (173)
55-64	4.6% (87)	6.9% (72)	5.7% (159)

*But note the very small base number

difficult to reconstruct. However, the variations in the levels of total tooth loss were not confined to those who had been edentulous for a long time. Large variations exist among people, the majority of whose dental treatment has been obtained since the advent of the Health Service. For example a large regional variation exists even among those aged under 35 (9.2% edentulous in the North; 1.3% edentulous in London and the South East, see Table 4.7).

What are the underlying reasons which might bring about a different level of total tooth loss among the under 35's in different regions? There are three broad headings under which possible reasons fall.

- (a) a difference in the level of disease.
- (b) a difference in the attitudes of patients to dental health and treatment.
- (c) a difference in the treatment given by dentists.

These three headings are very broad indeed and the second and third are very much influenced by each other. We shall examine the survey data with respect to these three areas of influence.

For people under 35 who had lost all of their natural teeth it is too late to study the reasons why they became edentulous since the evidence of the state of their teeth no longer exists. However a high proportion of the under 35's still have some natural teeth. One would expect that the reasons which are contributing to a high level of total tooth loss will manifest themselves among those with some natural teeth since this is the group which contains those who will next become edentulous. Section 6 deals in detail with the different tooth conditions found among the under 35's who have some natural teeth. We will therefore turn from examining the level of total tooth loss to investigate the state of the natural teeth.

PART III—NATURAL TEETH

5.0 PEOPLE WHO STILL HAVE SOME NATURAL TEETH

Section 4 dealt with a negative aspect of dental health, the complete loss of natural teeth. Sections 5-8 now consider those people who still retain at least one of their natural teeth. The range of teeth among this group varied from people with only one or two natural teeth left to those with only one or two that were missing.

Before presenting the survey findings on natural teeth, two points must be brought to the reader's attention. Firstly, when presenting the findings about natural teeth, the information obtained from the dental examination is used extensively, and the analyses are therefore confined to those people who were both interviewed and examined. The effect of the exclusion of those who were interviewed but not examined is discussed in the Appendix. Secondly, since a substantial proportion of the population (36.8%) had no natural teeth at all, the results presented in this section refer to only a sub-group of the whole population; that is the 63.2% who still have some natural teeth. Interpretation of data relating to sub-groups is discussed in the Appendix.

Dental health is determined by the amount of disease suffered, but is influenced by whether treatment is sought, and by the kind of treatment that is received. The assessment of dental health is made more complex by the fact that natural teeth are at risk from two major oral diseases, dental decay which attacks the teeth themselves, and periodontal disease which attacks the gums and tooth supporting tissues.

As soon as a tooth appears in the mouth it becomes vulnerable to attack by dental decay. The process begins as a painless process of destruction of the surface of the tooth. This destruction usually starts either on the biting surfaces of the teeth or at the points of contact between adjacent teeth. The erosion continues until a small hole is made through the hard enamel of the tooth. Once into the softer underlying dentine, the decay process is rapid until the tooth is virtually a hollow shell. The decay process, if left unattended, will continue until it reaches the 'living' pulp in the centre of the tooth, causing almost always severe toothache. Tooth decay appears to develop at different rates in different people but obviously treatment is simpler for both patient and dentist if the decay process is discovered in its early stages.

Periodontal disease will be described in more detail in Section 7.0 when the findings about gum trouble are presented. Briefly, therefore, gum trouble, if not treated, may eventually result in the shrinking back of the gums leaving the teeth unsupported. This may expose the root of the tooth and thereby also leave vulnerable to decay an area that would normally be protected. Ultimately support for the natural teeth may be so reduced that the teeth become loose and can even be pulled out with the fingers. If detected in the early stages, however, treatment can arrest the disease and preserve what remains. There is a point at

which, however, conservative treatment is not worthwhile since too little of the supporting tissue remains. Thus in cases of severe gum trouble teeth which are otherwise sound may have to be extracted.

As we have said already, it is not only variations in the occurrence of disease that determine dental health. Differences in treatment patterns also play their part. Dental treatment patterns are very complex. They are built up over a very long period of time, can involve the work of several dentists, and may reflect changes in a person's attitude towards dental health. Dental treatment is mainly the result of interaction of two people, the patient and the dentist. No dentist can treat a person who does not present himself for treatment. Once a person has presented himself for treatment, however, the dentist has the ultimate say as to what treatment is given. This is not to say that some patients do not have very firm ideas about the treatment they desire, but ultimately the type of treatment given must be primarily the dentist's decision. However, the patient may well have pre-empted this decision by his previous record of dental attendance. If his mouth has been very neglected it may not be possible to carry out full restorative treatment. In some cases the dentist's decision about what treatment should be given may be determined by the dentist's assessment of the patient's future dental behaviour.

It is against this very complicated background that we examine the present state of dental health of people who still have some natural teeth.

6.0 DENTAL DECAY AND ITS TREATMENT

6.1 The condition of natural teeth in adults

The dental examination established whether a tooth was present or missing. If the tooth was present, the examination showed its condition, but if the tooth was missing the examination could give no information concerning either how long ago the extraction or loss occurred, the condition of the tooth at the time, or the reason for the extraction or loss. It is often assumed when assessing dental health, that if a tooth is missing then it was lost through dental decay. However, as previously stated, some teeth are lost through periodontal disease, some are lost as a result of orthodontic treatment or as the result of injury, some are lost in the process of making a reasonably well fitting denture, and a few may never have formed in the first place.

From the examination each of the thirty-two teeth positions were classified into one of the following categories.

- | | |
|---|--------------------|
| (i) sound and untreated | |
| (ii) crowned | |
| (iii) filled, otherwise sound | |
| (iv) filled and decayed | |
| (v) decayed, not previously treated, but restorable | } actively decayed |
| (vi) decayed, not restorable | |
| (vii) bridged | |
| (viii) missing (not bridged) | |

Among the 54,208 tooth positions which existed among adults with some

natural teeth there were in all 107 teeth that were crowned and 23 for which bridges had been provided. These categories thus play a very small part in the dental health of the community. Since they occur so infrequently and represent types of treatment which are very specialised, they have been grouped together in the analysis.

The eight categories are mutually exclusive. At any one point in time a tooth is only eligible for inclusion in one category. However, over time, a tooth can pass from one condition to another. For example, when a sound tooth which has never been treated becomes diseased it initially passes into the 'decayed, not previously treated, but restorable' category. If treatment is sought the tooth may be extracted or it may be filled. If treatment is not sought the tooth will remain in this category, possibly eventually passing into the 'not restorable' group. If the decayed tooth is extracted then another step has been taken towards total tooth loss. If the treatment received is restorative then the tooth passes into the category 'filled, otherwise sound'. Once a tooth has been thus restored it may again become decayed, whereupon the same three courses of action are open. The tooth may be left decayed, it may be extracted or it may be restored again.

Thus the lifespan of a tooth is determined by a complicated interaction of disease and treatment. The combination of all such interactions over all thirty-two teeth determines the level of dental disease caused by dental decay, although again it must be remembered that total dental disease depends on other dental conditions as well as decay.

Table 6.1 shows, for adults who have some natural teeth, the average number of teeth in each condition. The figures are given separately for males and females and for the under 35's and the 35-year-olds and over, as well as for both sexes and all ages.

TABLE 6.1
Average number of sound, decayed and treated teeth among adults
with some natural teeth

Tooth conditions	Average number of teeth in each condition								
	England and Wales								
	Adults aged 16-34 with some natural teeth			Adults aged 35 and over with some natural teeth			Adults of all ages with some natural teeth		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Sound and untreated	15.6	14.2	14.9	11.4	10.4	10.9	12.3	12.3	12.6
Crowned or bridged	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Filled, otherwise sound	7.6	9.3	8.4	5.2	5.6	5.4	6.2	7.5	6.8
Filled and decayed	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.6	0.7
Decayed, not previously treated but restorable	1.5	0.6	1.2	1.2	0.9	1.1	1.4	0.6	1.1
Not restorable	0.4	0.2	0.3	0.6	0.4	0.5	0.5	0.3	0.4
Missing	6.3	6.6	6.4	12.6	14.0	13.4	9.8	10.3	10.1
Total	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Base	397	419	816	461	417	878	535	826	1694

On average adults aged 16-34 who had some natural teeth, had 15 teeth that were sound and untreated, 8-9 that were filled (otherwise sound), 2 that had active decay and 6-7 that were missing. Thus in this younger age group less than half of the thirty-two possible teeth were present sound and untreated. The differences between the sexes for this age group were that, on average, men had one more tooth that was sound and untreated and one more that was decayed.

This was counterbalanced by women having two more that were filled and satisfactorily restored.

When we compare adults aged 35 and over with the younger age group, we see that the average number of sound and untreated teeth has decreased by 4, the average number of filled (otherwise sound) teeth has decreased by 3, the level of active decay is the same, and the average number of missing teeth has gone up by 7. In this older age group women have on average one more tooth missing than men, and one tooth fewer that is sound and untreated.

When the two age groups are combined we find that people of all ages with some natural teeth, have on average 13 that are sound and untreated, 7 that are filled (otherwise sound), 2 that are decayed and 10 that are missing.

In this section we have given the first display of the average number of teeth in each condition. So far we have only used this method of presentation on fairly wide groups, covering people with fairly varied dental states. Later we use the same method on more homogeneous groups of people. In the Appendix we give the distribution of the different tooth conditions, thus showing the variation that is summarised in the average figures.

The next section examines the survey data to establish whether there are any regional variations in the distribution of the tooth conditions. This analysis is restricted to the younger age group, 16-34 years, since it is a more homogeneous group than the older one and because this age group will have had most of its dental troubles since 1948.

6.2 Regional variations in the level of decay among adults aged 16-34

When the reasons for regional variations in total tooth loss were discussed in section 4.7, three possible variables were offered as being capable of contributing towards such a variation. The first was 'a difference in the level of disease'. It is therefore of interest to see if, in fact, a different level of dental decay in the different regions can be demonstrated. The analysis will be confined to people aged 16-34 with some natural teeth since this group is more homogeneous, is less affected by tooth loss due to reasons other than decay, has received most of its dental treatment since 1948, and has already been shown to contribute to the regional edentulous variation.

6.3 The occurrence of decay

The process of decay is painless in the early stages and if left unattended progresses. Consequently the amount of decay found at the time of the examination will be the combined effect of the occurrence of the disease and the amount of dental attention sought. Thus the problem of measuring the occurrence of disease from the survey data involves distinguishing between the effect of treatment or neglect and general susceptibility to decay. One measure of the occurrence of decay would be whether or not any decay had ever existed in the mouth. We have already seen that among people aged 16-34 with some natural teeth, the average number of sound and untreated teeth was 14.9. Table 6.2 gives the distribution of sound and untreated teeth that lies behind this average.

Although this age group includes those people who are most likely to be dentally healthy, only 2% of those with some natural teeth had 27 or more teeth that were sound and had never been treated. Clearly therefore it is mean-

ingless to compare those who have experienced decay with those who have not. A more realistic comparison was therefore sought, and it was decided to examine susceptibility to decay in relation to the proportions of people who had 18 or more teeth that were sound and untreated, that is free from decay and never having been previously treated for decay.

TABLE 6.2
Distribution of the number of sound and untreated teeth
among adults aged 16-34, with some natural teeth

Number of sound and untreated teeth	England and Wales
	Adults aged 16-34 with some natural teeth
None	%
1-2	0.2
3-5	0.9
6-8	3.1
9-11	9.6
12-14	14.2
15-17	22.7
18-20	17.0
21-23	14.3
24-26	10.2
27 or more	5.0
	2.3
	100.0
Base	816

6.4 Sound and untreated teeth as a measure of disease

The level that we arbitrarily chose for this particular analysis was 18 or more teeth that were at present free from decay and had never in the past been treated for decay (sound and untreated). Table 6.3 gives the data regionally showing it for males and females separately as well as for both sexes together.

The proportion of people aged 16-34 with some natural teeth who had 18 or more teeth that were sound and untreated was 40.7% in the North and 24.9% in London and the South East. This was a reversal of what one would expect if the occurrence of decay was greater in the North. In fact the data at first suggests that the level of disease is higher in London and the South East.

However, the figures in Table 6.3 relate only to people with some natural teeth. For some people in the age range 16-34 the ultimate position of total tooth loss had already been reached. Could the worst cases in the North have already been subject to full extraction, thus leaving an apparently healthier group with some natural teeth? It is reasonable to assume that all those who had had full extraction did not have 18 or more sound and untreated teeth. We therefore re-calculate the proportions on the basis of all those aged 16-34 years.

	The North	London and the South East
Proportion of all people aged 16-34 years who had 18 or more teeth that were sound and untreated	$\frac{40.7 \times 90.8\%}{100.0}$ =36.9%	$\frac{24.9 \times 98.7\%}{100.0}$ =24.6%

TABLE 6.3
Distribution of sound and untreated teeth for adults aged 16-34
with some natural teeth by region and sex

The number of teeth that were sound and untreated	Males—adults aged 16-34 with some natural teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	%	%	%	%	%
Fewer than 6 sound and untreated teeth	3.4	2.0	4.4	5.8	4.4
6-11 sound and untreated teeth	13.5	20.4	19.5	25.4	19.9
12-17 sound and untreated teeth	33.9	40.9	38.0	35.5	36.3
18 or more sound and untreated teeth	49.2	36.7	38.1	33.3	39.4
	100.0	100.0	100.0	100.0	100.0
Base	118	49	92	138	397
Proportion of adults with some natural teeth	92.4%	94.7%	100.0%	98.0%	96.3%

The number of teeth that were sound and untreated	Females—adults aged 16-34 with some natural teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	%	%	%	%	%
Fewer than 6 sound and untreated teeth	6.4	1.7	2.1	4.4	4.0
6-11 sound and untreated teeth	23.1	32.8	21.3	32.1	27.5
12-17 sound and untreated teeth	38.9	41.4	43.6	46.0	42.9
18 or more sound and untreated teeth	31.6	24.1	33.0	17.5	25.6
	100.0	100.0	100.0	100.0	100.0
Base	108	58	94	159	419
Proportion of adults with some natural teeth	89.2%	96.9%	94.5%	99.4%	95.1%

The number of teeth that were sound and untreated	Adults aged 16-34 with some natural teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	%	%	%	%	%
Fewer than 6 sound and untreated teeth	4.8	1.9	3.2	5.0	4.2
6-11 sound and untreated teeth	18.1	27.1	20.5	29.0	23.8
12-17 sound and untreated teeth	36.4	41.2	40.9	41.1	39.7
18 or more sound and untreated teeth	40.7	29.8	35.4	24.9	32.3
	100.0	100.0	100.0	100.0	100.0
Base	226	107	186	297	816
Proportion of adults with some natural teeth	90.8%	95.9%	97.1%	98.7%	95.7%

Even allowing for the differential level of total tooth loss in the regions, there was still a higher proportion of people aged 16-34 in the North with 18 or more teeth that were sound and untreated than in London and the South East (36.9% and 24.6% respectively).

The higher level of sound and untreated teeth in the North existed for both men and women. The earlier discussions of total tooth loss make it difficult to accept that the occurrence of decay would prove to be higher in London and the South East than in the North. What other explanations could there be for this lower level of sound and untreated teeth in London and the South East?

In resolving this paradox it is necessary to consider the nature of the dental examination. The examination process has been described in detail in section 2.10; in summary the examination was carried out in the home and the dental examiner was making a clinical assessment of decay. He did not have the help of an X-ray and in order to ensure uniformity of recording with the other examiners, only obvious decay lesions were recorded.

In a dental surgery where conditions are more ideal for examination and more equipment is available, decay may be detectable at an earlier stage than it would have been in the home. This would be especially true if the tooth were X-rayed. We would therefore expect the level of disease found during an examination in the home to be an underestimate of the disease that would be found if the people concerned were to have diagnosis and treatment. Nevertheless the examination data will give us a measure of gross decay in the community.

Thus the treatment that people have had at the dentist's may well have been carried out at a level of detection of decay more searching than that of the survey examination. If, however, the level of detection and treatment of decay in the dental surgery varies regionally then dental treatment may have been applied at different levels in different places. In such circumstances it would be possible to have a difference in the level of 'sound and untreated' teeth not as a reflection of disease but as the result of differences in treatment.

One method of detecting decay in its early stages is by the use of X-ray equipment. In the interview we asked people whether they had ever had an X-ray taken of their teeth. Among those aged 16-34 who have some natural teeth, the proportion who said they had had an X-ray at some time was 34.1% in the North, 42.0% in Wales and the South West, 36.0% in the Midlands and East Anglia but 72.0% in London and the South East.

Whether the person has ever undergone restorative treatment must influence, to some extent, whether or not an X-ray has been taken. Table 6.4 shows the proportion of people, under 35, with some natural teeth who said that they had ever had an X-ray taken, according to how many teeth they have that are filled (otherwise sound).

Not many people among those who, at the time of the examination, had no teeth that were filled (otherwise sound) had ever had an X-ray; that is fewer than one person in ten in England and Wales as a whole. For those who did have some filled (otherwise sound) teeth, the proportion who had been X-rayed in London and the South East far exceeded the proportions in the other regions. Among people with 12 or more filled (otherwise sound) teeth, the proportion who had been X-rayed varied from 89.1% in London and the South East to 57.7% in the North. It would seem very likely therefore, that the regional varia-

tion in sound and untreated teeth reflects a regional variation not in disease but in the level of treatment. We therefore go on to examine whether there are further variations in other aspects of treatment.

TABLE 6.4
Whether an X-ray has ever been taken, by region and the number
of filled (otherwise sound) teeth

The number of teeth that were filled, otherwise sound	Adults aged 16-34 with some natural teeth				
	Proportion who have ever had an X-ray taken				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
None filled, otherwise sound	6.5% (46)	15.0% (20)	8.1% (37)	15.4% (13)	9.5% (116)
1-5 filled, otherwise sound	19.2% (52)	36.4% (22)	25.0% (36)	41.7% (48)	29.8% (158)
6-11 filled, otherwise sound	45.2% (73)	32.0% (25)	38.6% (62)	70.0% (97)	52.1% (257)
12 or more filled, otherwise sound	57.7% (52)	64.1% (39)	62.4% (48)	89.1% (138)	75.1% (277)
All	34.1% (223)	42.0% (105)	36.0% (183)	72.0% (296)	49.4% (808)

6.5 Regional variations in treatment among adults aged 16-34

The previous sections have shown that on the basis of the dental examination in the home, there was no evidence to suggest that a regional difference in the occurrence of decay could be responsible for the regional variation in total tooth loss. One major regional variation which was evident involved the use of X-rays, that is, involved an aspect of treatment. This brings us to a discussion of treatment and the other two variables discussed in Section 4.7.

- (b) "a difference in the attitudes of patients to dental health and treatment".
- (c) "a difference in the treatment given by dentists"

As we have said earlier, dental treatment is the result of the interaction of these two people, the patient and the dentist. The relationship is a very involved and often a delicate one, and depends very much on what each expects of the other. Different patients react in different ways to having dental treatment. Some prefer having fillings, some prefer having extractions. Probably variations exist among dentists. From the dental examination we have a record of the treatment pattern that has resulted from this interaction.

6.6 Filled (otherwise sound) teeth as a measure of treatment

Table 6.5 shows that among people under 35 years old, with some natural teeth, the proportion who had none that were filled (otherwise sound) was 21.7% in the North, 18.7% in Wales and the South West, 21.6% in the Midlands and East Anglia, but only 4.7% in London and the South East.

People may have no filled teeth for two reasons. Either they have no disease and therefore need no treatment, or they have disease but have not had restorative treatment.

TABLE 6.5
Distribution of filled (otherwise sound) teeth for adults aged 16-34
with some natural teeth, by region and sex

The number of teeth that were filled, otherwise sound	Males—adults aged 16-34 with some natural teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
None filled, otherwise sound	% 28.0	% 26.5	% 26.2	% 7.2	% 20.2
1-5 filled, otherwise sound	22.9	24.5	25.0	21.1	22.9
6-11 filled, otherwise sound	28.9	16.4	22.8	33.4	27.5
12 or more filled, otherwise sound	20.2	32.6	26.0	38.3	29.4
	100.0	100.0	100.0	100.0	100.0
Base	118	49	92	138	397
Proportion of adults with some natural teeth	92.4%	94.7%	100.0%	98.0%	96.3%

The number of teeth that were filled, otherwise sound	Females—adults aged 16-34 with some natural teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
None filled, otherwise sound	% 14.8	% 12.1	% 17.0	% 2.5	% 10.3
1-5 filled, otherwise sound	23.1	18.9	13.9	12.0	16.2
6-11 filled, otherwise sound	36.1	29.3	43.5	32.0	35.3
12 or more filled, otherwise sound	26.0	39.7	25.6	53.5	38.2
	100.0	100.0	100.0	100.0	100.0
Base	108	58	94	159	419
Proportion of adults with some natural teeth	89.2%	96.9%	94.5%	99.4%	95.1%

The number of teeth that were filled, otherwise sound	Adults aged 16-34 with some natural teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
None filled, otherwise sound	% 21.7	% 18.7	% 21.6	% 4.7	% 15.1
1-5 filled, otherwise sound	23.0	21.4	19.3	16.1	19.5
6-11 filled, otherwise sound	32.3	23.4	33.3	32.7	31.5
12 or more filled, otherwise sound	21.0	36.5	25.8	46.5	33.9
	100.0	100.0	100.0	100.0	100.0
Base	226	107	186	297	816
Proportion of adults with some natural teeth	90.8%	95.9%	97.1%	98.7%	95.7%

By far the great majority fall in the second group which consists of people with missing or decayed teeth, for only 2.3% of the under 35's in England and Wales have 27 or more teeth that are sound and untreated (Table 6.2).

At the other end of the scale the proportion who had 12 or more teeth that were filled (otherwise sound) was 23.0% in the North, 36.5% in Wales and the South West, 25.8% in the Midlands and East Anglia, and 46.4% in London and the South East. Again London and the South East is exceptional.

Table 6.5 shows the distributions separately for the sexes as well as all the under 35's together. In all regions women had more filled (otherwise sound) teeth than men did. In London and the South East as few as 2.5% of women under 35, with some natural teeth, had none that were filled (otherwise sound), while 53.5% had 12 or more teeth that were filled (otherwise sound). The picture in the North is somewhat different, 14.8% had no teeth that were filled (otherwise sound) and only 26.0% had 12 or more such teeth.

Among men of the same age group there was a higher proportion with no filled (otherwise sound) teeth, showing similar regional variations; 28.0% in the North, 26.5% in Wales and the South West, 26.2% in the Midlands and East Anglia compared with 7.2% in London and the South East.

How is it that treatment in the form of filling is carried out at such different levels in different regions of the country? As we have said before, treatment is the result of the interaction of both the patient and the dentist. Obviously the amount of restorative work that can be done by the dentist will be affected by the patient's pattern of dental attendance. In Table 6.6 we show for people under 35, who have some natural teeth, what their pattern of dental attendance was.

TABLE 6.6
Attendance pattern, by region

Attendance pattern	Adults aged 16-34 with some natural teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
Regular check-up	37.7	43.4	45.9	51.4	45.3
Occasional check-up	14.8	17.9	8.2	13.8	13.4
Only when having trouble with teeth	47.5	38.7	45.9	34.8	41.3
	100.0	100.0	100.0	100.0	100.0
Base	226	107	186	297	816

In London and the South East more people of this age group go to the dentist for a regular check up for their natural teeth and fewer only go when they have trouble with their teeth than in other regions, but the differences are not as dramatic as the regional variations in the number of filled (otherwise sound) teeth. Nevertheless there is some difference in the declared dental attendance patterns of people in different regions.

We examine in more detail the two larger groups in this classification, i.e.

those who say they attend for a regular check-up, and those who say they only go when they have trouble with their teeth. For each group we show what level of restorative work has been carried out.

TABLE 6.7

Distribution of the number of filled (otherwise sound) teeth according to dental attendance pattern, by region, for adults aged 16-34 with some natural teeth

The number of teeth that were filled, otherwise sound	Adults aged 16-34 with some natural teeth, who go to the dentist for a regular check-up				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	%	%	%	%	%
None filled, otherwise sound	1.2	—	1.2	0.7	0.8
1-5 filled, otherwise sound	10.7	10.9	4.3	4.6	6.9
6-11 filled, otherwise sound	40.4	21.8	42.8	29.6	34.1
12-17 filled, otherwise sound	38.1	52.1	42.8	48.6	45.3
18 or more filled, otherwise sound	9.6	15.2	8.4	16.5	12.9
	100.0	100.0	100.0	100.0	100.0
Base	84	46	84	152	379

The number of teeth that were filled, otherwise sound	Adults aged 16-34 with some natural teeth, who only go to the dentist when they are having trouble with their teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	%	%	%	%	%
None filled, otherwise sound	38.7	41.5	41.7	11.7	31.4
1-5 filled, otherwise sound	34.0	31.7	35.7	34.0	34.1
6-11 filled, otherwise sound	21.7	19.5	20.2	37.8	26.1
12-17 filled, otherwise sound	5.6	7.3	1.2	14.6	7.5
18 or more filled, otherwise sound	—	—	1.2	1.9	0.9
	100.0	100.0	100.0	100.0	100.0
Base	106	41	84	103	369

Among the under 35's who seek regular treatment for their natural teeth hardly anyone has none that are filled (otherwise sound). On the other hand there is a large proportion who have 12 or more teeth that are filled (otherwise sound). This level is high in all regions. It was 47.7% in the North, 67.3% in Wales and the South West, 51.3% in the Midlands and East Anglia and 65.2% in London and the South East.

The overall level of restorative work carried out among those who only attend the dentist when they are having trouble with their teeth, presents quite a different picture. Not only is the level of restorative treatment very much lower but in addition there is a distinct difference between the regions. For people who are under 35 but only go to the dentist when they have trouble with their teeth, the proportion who have 12 or more filled (otherwise sound) is 5.6% in the North, 7.3% in Wales and the South West, 2.4% in the Midlands and East Anglia but 16.5% in London and the South East.

These figures are very low compared with the regular attenders but in addition London and the South East compared with elsewhere had three times as many people per hundred who, although they only attended the dentist when they were having trouble, had 12 or more filled (otherwise sound) teeth. This regional difference is even more noticeable at the other extreme of restorative treatment. Among the under 35's who were not regular attenders, the proportion who were found to have no filled (otherwise sound) teeth was 38.7% in the North, 41.5% in Wales and the South West, 41.7% in the Midlands and East Anglia but only 11.7% in London and the South East.

Thus about 9 out of 10 casual attenders in London and the South East have some evidence of restorative treatment, but elsewhere the figure is only about 4 out of 10. It is this difference in the treatment received by the non-regular attender that accounts for most of the regional difference in the number of filled (otherwise sound) teeth.

We saw in Table 6.4 the regional variation in the level of X-rays associated with the number of filled (otherwise sound) teeth. We have seen from Tables 6.5 and 6.7 that the number of such teeth varies with region and with the different dental attendance patterns. Finally in this section we show, in Table 6.8 the proportion of people who say they have ever had an X-ray, for the different regions, according to the pattern of dental attendance.

TABLE 6.8
Whether an X-ray has ever been taken by region and attendance pattern

Attendance pattern	Adults aged 16-34 with some natural teeth				
	Proportion who have ever had X-ray taken				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
Regular check up	50.0% (84)	56.5% (46)	57.1% (84)	84.9% (152)	66.9% (366)
Occasional check up	42.4% (33)	47.4% (19)	46.7% (15)	78.0% (41)	57.4% (108)
Only when having trouble with teeth	18.9% (106)	22.0% (41)	13.1% (84)	50.5% (103)	27.5% (334)
All	34.1% (223)	42.0% (106)	36.0% (183)	72.0% (296)	49.4% (808)

For adults, aged 16-34 with some natural teeth, who say they go to the dentist for a regular check-up, the proportion who have ever had an X-ray varied from 50.0% in the North to 84.9% in London and the South East, the latter region being vastly different from the rest of the country. On the other hand, for those who say they only go to the dentist when they have trouble with

their teeth, the comparable proportions who have ever had an X-ray were 18.9% in the North and 50.5% in London and the South East.

Thus there was a large variation in the use of X-rays both with region and with dental attendance pattern. The regional variation was so great that young adults with some natural teeth from London and the South East, who have the worst dental attendance pattern, have a similar level of ever having had an X-ray as people of a similar age group but with the best dental attendance pattern, in the North.

6.7 The distribution of decay around the mouth

We have shown in previous sections and in the Appendix the number of teeth affected with each condition irrespective of which particular teeth were concerned. If each of the thirty-two possible teeth are equally at risk from decay, then this is a realistic method of presentation. If, however, the distribution of disease is not uniform around the mouth, then one needs to examine in detail the particular teeth and particular areas of the mouth which are more (or less) prone to disease.

Table 6.9 shows for each of the thirty-two possible teeth the proportion that fall into each of the different tooth conditions. The table includes adults of all ages, having some natural teeth present. In accordance with charting practice in the United Kingdom, the teeth are numbered, in quadrants, from 1-8, starting from the front of the mouth.

The information contained within the table is very detailed, but the complex variations it shows are of considerable interest. The headings across the table indicate the individual tooth and the type of tooth. The headings down the side list the conditions of the natural teeth. The figures in the table show what proportion of any particular tooth falls into each tooth condition. For example, the very first column shows that among people who still had some natural teeth, tooth number 8 in the upper jaw on the left hand side (that is the third molar or wisdom tooth) was found to be sound and untreated in 15.4% of cases, filled (otherwise sound) in 21.8% of cases, actively decayed in 9.1% of cases and missing in 53.7% of cases.

Are these tooth conditions similarly distributed for each of the thirty-two teeth? If not what is the pattern for different teeth?

To establish whether decay is equally distributed around the mouth, we look in detail at the proportion of sound and untreated teeth found in each particular tooth position. The figures are abstracted from Table 6.9.

Proportion of teeth found to be sound and untreated in adults of all ages
(abstracted from table 6.9)

	Molars			Premolars		Canine	Incisors	
	8	7	6	5	4	3	2	1
Upper jaw left	15.4%	10.8%	5.8%	25.2%	29.3%	59.4%	49.8%	56.0%
Upper jaw right	16.4%	11.0%	5.8%	23.9%	28.2%	61.4%	51.4%	55.4%
Lower jaw left	15.3%	9.6%	4.6%	32.2%	57.5%	88.3%	90.7%	91.7%
Lower jaw right	13.8%	8.8%	5.0%	33.8%	56.8%	87.3%	91.2%	91.3%

The variation in the proportion of sound and untreated teeth for a particular tooth position is about as great as it could be. Fewer than 6% of the "sixes" are

TABLE 6.9
The distribution of tooth conditions for each tooth position

Condition of tooth		Adults of all ages, with some natural teeth													
		Upper Jaw							Lower Jaw						
		Left							Right						
		Molars		Premolars		Canine		Incisors		Canine		Premolars		Molars	
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
15.4	10.8	5.8	25.2	28.3	39.4	49.8	56.0	55.4	51.1	61.4	28.2	23.9	5.8	11.0	16.4
—	—	0.2	0.4	0.3	0.1	0.9	1.3	1.5	1.3	0.2	0.2	0.1	—	—	0.1
21.8	41.2	30.2	27.7	27.7	12.5	17.1	16.0	15.6	17.0	13.6	29.0	29.2	33.2	42.4	18.3
2.1	3.8	3.4	2.0	1.7	2.2	2.0	1.8	2.2	2.9	1.9	1.9	2.0	2.9	3.1	2.0
4.8	5.8	2.6	2.9	3.0	5.6	5.8	4.3	5.5	4.7	4.3	3.4	3.2	2.4	5.8	3.6
2.2	1.6	1.2	2.0	1.7	1.4	1.1	0.5	0.4	0.8	1.0	1.5	1.7	1.8	1.4	1.2
53.7	36.8	56.6	39.8	36.3	18.8	23.3	20.1	19.4	22.2	17.6	35.8	39.9	53.9	36.3	58.4
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Condition of tooth		Adults of all ages, with some natural teeth															
		Lower Jaw															
		Left								Right							
		Molars		Premolars		Can-line		Incisors		Can-line		Premolars		Molars			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		
15.3	9.6	4.6	32.2	57.5	88.3	90.7	91.7	91.3	91.2	87.3	56.8	33.8	5.0	8.8	13.8		
—	—	0.3	0.2	0.1	—	0.1	0.1	—	—	—	0.1	0.1	0.3	0.1	—		
21.0	36.9	25.5	29.3	22.8	4.6	2.9	1.7	2.0	2.4	5.1	21.7	29.0	25.7	37.0	22.7		
2.5	4.0	3.5	2.2	1.7	0.9	0.1	0.1	0.2	0.2	0.4	1.2	2.1	2.8	4.3	1.7		
4.1	4.1	1.6	3.8	3.5	2.7	1.4	0.9	1.1	1.8	3.1	4.0	3.6	1.5	4.5	3.7		
1.7	2.1	1.8	1.3	1.1	0.8	0.6	0.5	0.5	0.8	0.9	1.6	2.4	1.5	2.0	1.5		
55.4	43.3	62.7	31.0	13.3	2.7	4.2	5.0	4.9	3.6	3.2	14.6	29.0	63.2	43.3	56.6		
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

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sound and untreated but over 90% of the lower incisors are sound and untreated. There are obviously some areas of the mouth which are a lot less prone to decay than others for these figures refer to adults of all ages, who have some natural teeth.

What are the patterns of disease? The first thing that stands out is that, looking at each quadrant separately, each tooth from 1-8 has a distinctly different proportion completely free from disease, with one exception. The lower incisors 1 and 2 are like each other. Apart from this, however, the tooth types, such as molars, premolars, do not have a pattern which embraces the whole group. Thus the actual position in the quadrant is important.

Given that the individual teeth in each quadrant show large differences, are there any similarities in the quadrants? Upper quadrants are very similar to each other, lower quadrants are very similar to each other, but there are very distinct differences between the upper and lower jaws thus demonstrating the symmetry of caries. The most nearly comparable upper and lower teeth are the molars where the level of disease appears to be slightly higher in the lower jaw. Beyond this the upper and lower jaws diverge and have a pattern unique to each jaw. From the premolars forward the level of sound and untreated teeth is considerably higher in the lower jaw.

Table 6.10 shows the teeth grouped in as like kinds as possible. Each group includes four teeth. If decay had been evenly distributed then each of these groups of four teeth could have been expected to contribute equally to the tooth conditions. Since decay is differentially distributed around the mouth we examine which particular teeth make the most contribution to the different tooth conditions.

Of all sound and untreated teeth 68.2% were found among canines and incisors, but canines and incisors account for only 12 of the 32 teeth. Only 9.5% of the sound and untreated teeth were found among the molars although these also account for 12 of the 32 teeth.

The molars were in fact responsible for 52.2% of the filled (otherwise sound) teeth, premolars were responsible for 31.7% of the filled (otherwise sound) teeth but only 16.1% of such teeth were found among canines and incisors. Decay was fairly evenly distributed among tooth types except that it did not exist to the same extent among lower incisors.

TABLE 6.10
Proportion of each tooth condition that is accounted for by different teeth

		Adults of all ages with some natural teeth			
		Sound and untreated	Filled, otherwise sound	Decayed	Mixing
Es } Ts } Es } Molars	4.7	9.5	13.3	14.1	23.3
	3.1		22.1	19.2	15.9
	1.7		16.8	12.2	23.0
Upper premolars		8.3	14.6	12.3	15.1
Lower premolars		14.0	15.1	12.9	8.8
All canines		23.4	5.2	11.3	4.2
Upper incisors		16.6	9.6	14.5	8.4
Lower incisors		28.5	1.0	3.6	1.6
		100.0	100.0	100.0	100.0

The molars accounted for 61.7% of missing teeth whereas the same number of possible teeth among canines and incisors accounted for only 14.4% of missing teeth.

Thus the different tooth types contribute very differently to the number of teeth found to be in the different tooth conditions.

In view of this large amount of variation in decay around the mouth, subsequent analyses of specific groups of the population make use of results shown tooth by tooth to indicate the area of disease and treatment.

Two particular types of teeth, the 6's and the 8's, that is two of the three molars in each quadrant, require special mention for they have unique circumstances affecting their dental condition and their treatment.

(a) *The Sixes*

These are the first of the three molars to erupt in each quadrant, and as can be seen from Table 6.9 they have the highest mortality rate and the lowest level of freedom from disease. These molars erupt at a much earlier age than is often realised, often at about six years old, that is before any of the deciduous or 'milk' teeth have been shed. In children there are 20 'milk' teeth which make up the full complement and are equivalent to incisors, canines and premolars only. When the first molars come through behind 'milk' teeth, it is highly likely that many parents do not realise that these are part of the permanent dentition and are not 'milk' teeth. Any other permanent teeth erupting at this age will be front teeth, and here the process is more obvious because of the shedding of 'milk' teeth before their replacement by permanent dentition.

It is unfortunate in these circumstances that molars appear to be very much more prone to decay than incisors. Since many parents are probably unaware that attendance for treatment of permanent back teeth can start as early as at six years old, it is possible that it may be several years before dental treatment is sought, by which time the 'sixes' may well have deteriorated quite considerably.

This situation together with shortage of manpower results in forms of treatment being carried out which otherwise would probably not occur. For example the Chief Medical Officer of the Ministry of Education issued the following statement in his report "The Health of the School child 1957-58".

The Extraction of Six-Year Molars

In past reports in this series it has been pointed out that a shortage of dental officers in an area necessitates some restriction in offers of conservative treatment. Such restriction calls for a policy of extraction of those teeth which are so carious that a disproportionate amount of time would be taken over their conservation, or in which a filling would be of doubtful durability. A substantial proportion of the teeth coming within this category are the first permanent molars, which are peculiarly susceptible to caries. It is an accepted practice to perform symmetrical extractions of these teeth, e.g., to remove a sound or easily saveable upper first molar if the corresponding lower tooth requires extraction, and not uncommonly all four "sixes" are extracted at one time if decay is present in one or more of them.

Mr. E. Copestake, Principal School Dental Officer of Sheffield, writes in his report for 1956:

"Children leaving school should be normally in possession of 28 permanent teeth. Four of these teeth, the first permanent molars, erupting when the child is six years of age, are often so badly calcified and susceptible to decay that many dentists, with long experience of the treatment of children, extract these teeth without question in caries-susceptible children at nine to ten years of age. Evidence to support this practice is well established and is fully justified in those cases when regular conser-

vative treatment is rejected. It relieves the difficulties associated with jaws insufficiently large to accommodate all the permanent teeth and allows the eruption, later on, of the wisdom teeth without impaction. It is these first permanent molar teeth which make up the bulk of the permanent teeth extracted in the clinics and under present circumstances this cannot be avoided nor can the indiscriminate preservation of these teeth be considered as desirable.¹⁰

The extraction of the four first permanent molars is a particular and rather specialised application of the policy of discrimination in, and restriction of, offers of conservation treatment, when staff is limited, which has been advocated in *The Health of the School Child* by the Board and Ministry of Education for very many years. When used judiciously in selected cases, it is without doubt a form of treatment of real benefit. The decision whether this treatment is appropriate in a particular case is, of course, a matter for the discretion of the individual dentist concerned. For general guidance, however, it can be said that the impression has been gained that in too many mouths there are six-year molars which have a number of fillings inserted over a period of years, leading to the teeth acquiring a patch-up look, with a probability of further trouble before long and the loss of the tooth or teeth in the not very distant future. In a high proportion of such cases, extractions at the appropriate stage would have saved much of the time and trouble spent on these fillings, and would, moreover, have produced a better final result. The time saved could have been more profitably devoted to the insertion of fillings in other teeth with a greater expectation of permanency.

Many school dental officers do already extract the four six-year molars in cases which they consider suitable. This treatment policy is discussed here because it seems desirable to indicate the official viewpoint regarding its wider adoption when the need is so great for school dental officers to use their time and efforts to the best advantage. It is not intended to encourage the extreme attitude of those who hold that, practically without exception, every child should have the four first permanent molars extracted as a routine measure.

Thus it would seem that at the early age of 9 or 10 years, children may be losing some of their permanent teeth. From the interview we have some evidence that people may not have realised that such extractions were of permanent dentition. During the interview we asked people which of their teeth they had lost. This was done in considerable detail using a chart to distinguish the different teeth in the mouth. When comparing the individual's statements with the dental examination, we found that they were very accurate about the second molars, but very inaccurate about the first molars.

TABLE 6.11
Proportion of first and second molars found to be missing in the dental examination compared with the proportion said to be missing by the informant

Proportion of particular teeth that were missing	Adults with some natural teeth							
	Aged 16-34				Aged 35 or more			
	Male		Female		Male		Female	
	Exam	Self	Exam	Self	Exam	Self	Exam	Self
Upper left 6	39.3%	19.6%	37.5%	20.0%	72.7%	52.9%	74.6%	54.7%
Upper left 7	17.4%	18.6%	16.5%	14.6%	53.1%	51.6%	57.6%	54.2%
Upper right 6	39.0%	21.2%	34.8%	21.3%	67.9%	49.7%	71.9%	54.4%
Upper right 7	16.4%	18.4%	16.5%	15.8%	52.5%	49.5%	57.3%	53.2%
Lower left 6	52.4%	28.2%	45.6%	28.4%	73.3%	52.7%	77.2%	58.3%
Lower left 7	25.4%	26.2%	26.0%	22.7%	55.3%	54.4%	66.2%	59.0%
Lower right 6	50.1%	28.7%	49.2%	27.4%	73.3%	52.7%	78.7%	57.6%
Lower right 7	28.0%	29.5%	24.1%	23.2%	55.3%	54.4%	64.0%	59.2%

Thus there was very good agreement about second molars but close to a difference of 20% over first molars. The level of this difference was similar for

the older and younger groups. This suggests that the loss of the 'sixes' must have occurred at an age younger than the range included in the survey, that is before 16 years of age. Possibly some people thought that the teeth they had out were 'milk' teeth; perhaps for some of them the gaps had closed to such an extent that they were no longer aware that any teeth were missing. Whatever the reasons it appears that a large proportion of first molars were probably lost at a very early age.

This policy of extractions must be kept in mind when analysing the level of disease for particular teeth, for here is one tooth type where extractions may not have been the result of active decay but the result of a policy decision involving symmetrical extraction.

(h) *Wisdom teeth*

The third molars are often known as wisdom teeth. These teeth erupt last of all. People get them at varying times from late teens to mid-thirties, while in some people they never erupt and occasionally are not formed. If the mouth is fairly crowded with teeth then the wisdom teeth may have difficulty in erupting in their proper position. In such cases it may be necessary to extract a wisdom tooth, maybe before it has erupted.

In the dental examination teeth were charted according to whether they were present or missing. It is impossible to tell, in any examination of this type, whether a missing wisdom tooth has been extracted or has never erupted. In order to make some kind of estimate of how many of the missing wisdom teeth had in fact never come through, we asked a series of questions in the interview. Some people did not know whether their wisdom teeth had ever erupted or not but most people were able to give some indication.

In Table 6.12 the figures are shown separately for males and females and for those aged under 35 and those aged 35 and over. The examination showed a lower level of missing wisdom teeth among the younger group than among the older group. It is interesting to see from the interview information the level given for extracted wisdom teeth and non-erupted wisdom teeth. It is probable that the 'don't knows' are more often non-erupted teeth than extracted ones. About 11% of men aged 16-34 had had a wisdom tooth (upper left 8) extracted, the level was similar for each of the wisdom teeth. About 23% said that wisdom tooth upper left 8 had never erupted, again the level was similar for all wisdom teeth. About 9% of men aged 16-34 did not know whether each wisdom tooth had been extracted or had never erupted. Among women aged 16-34 a slightly higher proportion of wisdom teeth had been extracted and a considerably higher proportion had not yet erupted, reflecting the fact that women tend to get their wisdom teeth later than men. Fewer women did not know whether wisdom teeth had been extracted or had not erupted. Thus among those aged 16-34 the major reason for missing wisdom teeth was non-eruption.

Among the older group the difference between the sexes in the level of non-erupted wisdom teeth disappeared. With this age group the emphasis changes from non-eruption to extraction as the major reason for missing wisdom teeth. The figures suggest that even among those aged 35 and over about 13% of wisdom teeth have never erupted. The actual level of non-eruptions is probably higher than this as some people who did not know whether their missing wisdom teeth had ever erupted or not will never have had wisdom teeth.

TABLE 6.12
Missing wisdom teeth, showing whether the person thought them to be extracted or not having erupted

Wisdom teeth	Adults aged 16-34 with some natural teeth								
	Male				Female				
	Exam	Self			Exam	Self			
	Missing	Extracted	Not Erupted	Don't Know	Missing	Extracted	Not Erupted	Don't Know	
Upper left 8	42.6%	11.3%	23.2%	9.3%	51.8%	14.8%	35.3%	5.0%	
Upper right 8	45.8%	12.8%	22.9%	9.1%	59.4%	16.2%	36.0%	5.0%	
Lower left 8	44.6%	11.8%	23.2%	9.6%	53.0%	11.9%	35.3%	4.1%	
Lower right 8	46.9%	12.3%	23.7%	9.6%	56.3%	12.2%	37.2%	4.1%	
Wisdom teeth	Adults aged 35 or more with some natural teeth								
	Upper left 8	57.3%	35.6%	13.4%	10.0%	62.1%	39.6%	12.5%	11.8%
	Upper right 8	59.0%	33.4%	13.4%	10.6%	68.6%	42.4%	12.0%	12.5%
	Lower left 8	58.8%	32.8%	11.7%	9.3%	64.5%	38.4%	11.5%	12.9%
	Lower right 8	57.3%	31.0%	12.4%	10.2%	65.2%	37.6%	12.9%	13.7%

6.8 Distribution of decay around the mouth for two different age groups

As age is such a very important factor with regard to dental health we show the distribution of decay around the mouth for those adults who still have some natural teeth for the two main age groups, adults aged 16-34, and adults aged 35 and over. We have already, in Section 6.7, described the form taken by tables showing the conditions tooth by tooth. The base statistics are given in the Appendix but a simplified version of the table is shown in diagrammatic form in figure 6.1. At the top of the page is the diagram for all ages, below on the left adults aged 16-34 are represented, below on the right adults aged 35 and over are represented. The figures are made up of two parts, the upper jaw and the lower jaw. The individual tooth positions are marked. The area of black shows the proportion of each tooth type that is missing. The area of red shows the proportion with active decay. The area covered with dots shows the proportion of each type of tooth that has been filled and is otherwise sound. The grey area represents the proportion of teeth found to be free from decay and never having been treated.

The lower part of each diagram, which represents the lower jaw has been inverted so as to diagrammatically represent the mouth. The statistics on which these diagrams are based can be found in the Appendix.

Among adults aged 16-34 with some natural teeth very few of the molars are disease free, with the 6's and 8's having a high proportion missing. The upper canines are particularly outstanding in their freedom from disease. In the lower jaw the six front teeth are very largely free from decay. The lower molars are heavily diseased as are the molars in the upper jaw.

Among adults aged 35 and over who still have some natural teeth, the lower jaw has a pattern of decay and treatment which appears to be a natural progression from the state of the teeth in the younger age group. Molars are fairly frequently missing, but although there has been some little advance in decay on the front lower six teeth this is very small.

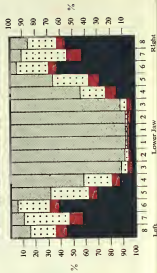
The picture of the upper jaw, of those aged 35 or more, is not such a natural progression. The molars and premolars have suffered a decline which is somewhat similar in pattern to the younger age group but the upper canines and incisors have altered, at least in respect to the level of disease free teeth. The mouth appears to have, by this time, become much more visibly partitioned into three areas. Over 50% of all teeth 4-8 on the left are missing, over 50% of all teeth 4-8 on the right are missing. About 30% of front teeth 3 to 3 are missing. The pattern of missing teeth among the younger age group was not so equally distributed for different tooth types.

It must of course be remembered that decay is not the only cause of tooth loss, and although it looks as if the same kind of influences are acting on the bottom jaw of the two age groups, some other reason for tooth loss enters into the loss rate for the top jaw teeth.

In later sections (8, 9 and 10) we discuss patterns of tooth loss and the resultant provision of dentures. The results show that there is a difference in provision and acceptability of dentures for upper as opposed to lower jaws. There is also a difference in provision and acceptance of dentures to replace some, rather than all, of the teeth of one jaw. The most acceptable situation for a partially dentured person is a full denture for the upper jaw and no denture

FIGURE 6.1 The distribution of tooth conditions around the mouth.

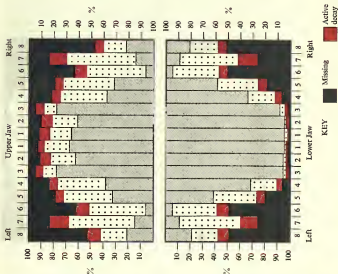
(i) *Adults of all ages, with some natural teeth.*



(ii) *Adults aged 16-34, with some natural teeth.*

(iii) *Adults aged 35 or more, with some natural teeth.*

(ii) Adults aged 16-34, with some natural teeth.



(iii) Adults aged 35 or more, with some natural teeth.

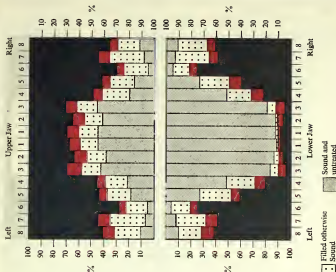
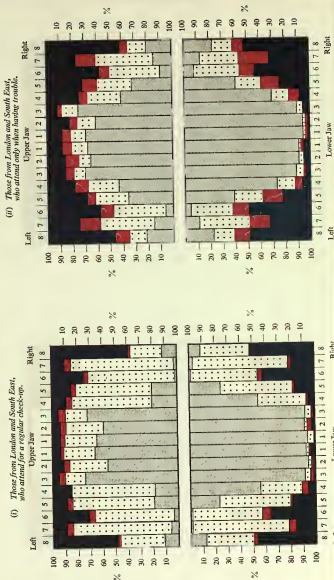


FIGURE 6.2 The distribution of tooth conditions around the mouth, for adults aged 16-34, with some natural teeth.



(iii) *Those from the North who attend only*

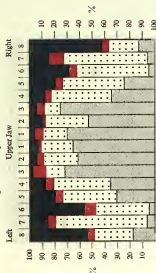
(iv) *Those from the North who attend for a regular check-up.*

Left

Lower Jaw

Right

(iii) Those from the North, who attend for a regular check-up.

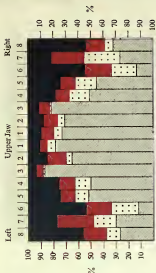


Left

Lower Jaw

Right

(iv) Those from the North, who attend only when having trouble.



Left

Lower Jaw

Right

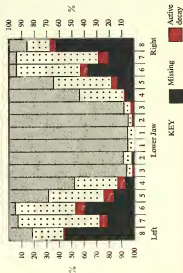
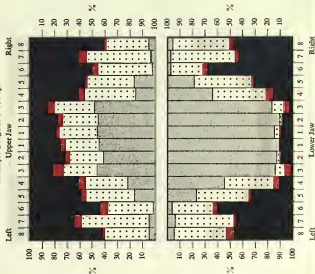
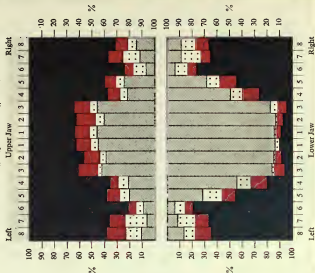


FIGURE 6.3 The distribution of tooth conditions around the mouth, for adults aged 35 or more, with some natural teeth.

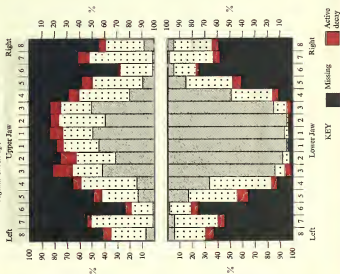
(i) *Those from London and South East, who attend for a regular check-up.*



(ii) *Those from London and South East, who attend only when having trouble.*



(iii) Those from the North, who attend for a regular check-up.



(iv) Those from the North, who attend only when having trouble.

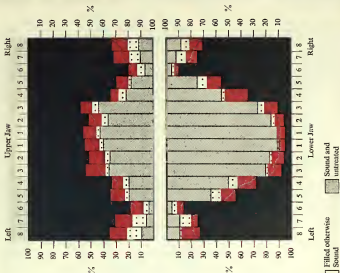
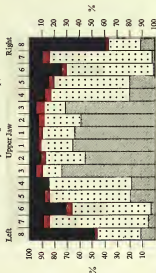
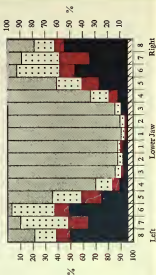
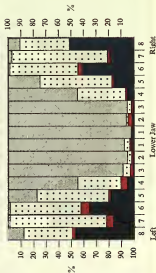
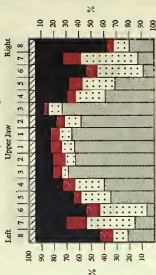


FIGURE 6.4 The distribution of tooth conditions around the mouth, for all adults aged 16-34, including those who are edentulous.

(i) *Those from London and South East, who attend for a regular check-up.*



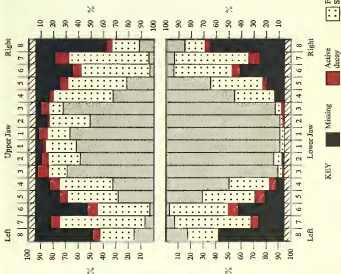
(ii) *Those from London and South East, who attend only when having trouble.*



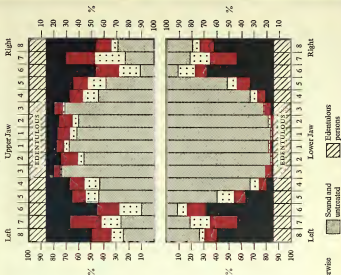
(iii) *Those from the North who attend for a regular check-up.*

(iv) *Those from the North who attend only when having trouble.*

(iii) Those from the North, who attend for a regular check-up.



(iv) Those from the North, who attend only when having trouble.



for the lower jaw. The least acceptable situation is a partial denture for the lower jaw only. As far as the lower jaw is concerned it is rare for a full lower denture to be made to oppose natural teeth in the upper jaw. Therefore those who have a lower jaw clearance will be found among the edentulous. On the other hand a full upper denture can be opposed by natural lower teeth and is fairly well tolerated. In addition a partial upper denture is better tolerated than a partial lower denture.

Consequently the pattern of tooth loss among those who still have some natural teeth will be influenced by the provision of dentures, and upper and lower jaws will be differently affected. Among those aged 35 and over the upper jaw will be considerably affected, whereas the lower jaw will be affected very little.

6.9 The distribution of decay around the mouth according to dental attendance pattern

In section 6.6 we found that there was a large difference in the proportion of filled (otherwise sound) teeth according to region and dental attendance pattern. We now investigate this further, by looking at the distribution of tooth conditions around the mouth for people with different dental attendance patterns. We have used the two extremes of dental attendance pattern, those who go for a regular check-up, and those who only go to the dentist when they are having trouble with their teeth*. Again for ease of presentation and assimilation, the results have been summarised in figures 6.2 and 6.3. The base statistics are given in the Appendix.

In figure 6.2 we examine, for comparison, the groups of people most likely to show differences. The top left 'mouth' diagram, made up of upper jaw and lower jaw, shows the decay and treatment situation for adults aged 16-34 with some natural teeth, who attend for regular check-ups and who live in London and the South East. The area depicting fillings is very large. Hardly any molars exist disease free and unfilled. There is a high level of filling carried out on the upper premolars. The top right 'mouth' diagram is that of adults aged 16-34, from London and the South East, who only go to the dentist when they are having trouble with their teeth. Here there is not so much evidence of fillings as with the attenders for regular check-ups. More molars exist untreated, more upper premolars exist untreated. There is a considerably higher level of active decay.

The 'mouth' depicted at the lower left is that of adults aged 16-34 with some natural teeth from the North, who attend for a regular check-up. The area of fillings here is higher than adults in London and the South East who only attend when having trouble, but lower than the regular check-up people. Again upper premolars are not so frequently filled.

At the lower right we have those adults aged 16-34 with some natural teeth who live in the North and only go to the dentist when they have trouble with their teeth. The level of fillings is very low, the level of active decay is high. The apparent level of sound and untreated teeth is high. This again is a reflection of the regional variation in the use of X-rays. The outstanding comparison, of course, is the difference in the amount of filling carried out in the mouths of regular attenders in London and the South East, compared with the fillings

*A detailed examination of the regional pattern of dental attendance, together with the length of time since the last dental visit will be found in section 11.2.

carried out among those in the North who only go to the dentist when they are having trouble with their teeth.

A similar comparison is carried out in figure 6.3 for adults aged 35 and over with some natural teeth. It is obvious from these pictures that a considerable amount of restoration by filling has been going on in the mouths of regular dental attenders for some considerable time, and that these are the mouths that managed to retain their natural teeth. For those who only go to the dentist when having trouble with their teeth, the level of filled teeth is very low for both regions. The large area of missing teeth in the upper jaw depicts a high level of top jaw clearance. There is a high level of active decay on the remaining standing teeth and the prognosis for these mouths does not look very hopeful. Despite this unfavourable environment, however, we see that the lower six front teeth are still present for the vast majority of people with some natural teeth.

When comparing adults with some natural teeth in the two major age groups (16-34 and 35 years and over) it is impossible to tell whether the differences are the result of age or the result of changes in the provision of dental treatment. From the amount of restorative treatment found among people who only attend the dentist when they are having trouble with their teeth, in the two different age groups, there is perhaps some hope of the younger group retaining more of their natural teeth for longer. The improvement in the amount of restorative work for irregular dental attenders appears to have been considerably greater in London and the South East than in the North.

We have discussed the effect of different dental attendance patterns and treatment on the dental health of adults who still have some natural teeth. But this is only part of the effect of these two variables. Where do the edentulous fit into the picture? We enquired of the younger group of edentulous (16-34) years what their dental attendance pattern had been when they had their natural teeth. With this information we can present the distribution of tooth conditions around the mouth, according to region and attendance pattern, for all persons aged 16-34, including those who are edentulous. Figure 6.4 thus depicts the full effect of attendance pattern and treatment on this age range. Among adults aged 16-34, who attend for a regular check-up, in London and the South East, none were edentulous. In contrast, among adults aged 16-34, in the North, who only attend when they are having trouble with their teeth, 13.8% were edentulous.

The variation in amount of conservative treatment observed when comparing the extremes of figure 6.2 is obviously even greater when, in figure 6.4, adults who have lost all of their natural teeth are included in the analysis. It cannot therefore be stressed too forcefully that attendance pattern and treatment play a very large part indeed in people keeping their natural teeth.

7.0 GUM DISEASE

By 'gum disease' we refer simply to the common condition which causes the loss of the supporting tissues of the teeth, by attack from within the mouth. Thus gum disease can only exist when a tooth is present. This excludes other diseases and conditions of the jaws such as tumours, cysts, abscesses and other infections which may also cause gum damage and tooth loss but are far less common.

Gum disease, like dental decay, is a progressive condition. It starts as inflammation and progresses towards the destruction of the union between the

gum, the bone and the tooth. This process of inflammation and destruction continues slowly down the root of the tooth breaking down the connection between the root of the tooth and its supporting bone, eventually destroying the supporting bone. Surprisingly the root of the tooth itself is rarely affected. Ultimately there is too little bone left to support the tooth, which becomes loose and is either shed or has to be extracted. Gum disease proceeds at different rates in different people and is virtually painless. If treated in the early stages the process may be halted, but it is almost impossible to reverse the process, so that if treatment is delayed too long it may not be possible to save the tooth.

Two oral conditions play a part in the initiation of gum disease. These are plaque and calculus (or tartar). Stages in the progress of the disease are noted by the use of special terms, gingivitis, pocketing, recession, and loose teeth. In the Appendix there is a detailed account of how the dental examination attempted to measure these conditions. Here, for information, we give a brief description of the conditions.

(i) *Plaque* (not measured in this dental examination)

Plaque is the name given to the layer of soft food debris mixed with mucin, epithelial cells, blood cells, bacteria, etc., which forms on the surface of teeth if they are not thoroughly cleaned. If left undisturbed oral bacteria will flourish and multiply, producing toxins and acids which can then initiate the inflammation and destruction which is the start of gum disease.

(ii) *Calculus or tartar*

Calculus is also deposited on the teeth but unlike plaque is a very hard, stony material the formation of which is associated with the flow of saliva in the mouth, in association with plaque deposits. Regular tooth brushing can prevent much of its formation on surfaces accessible to the tooth brush, but once formed it can only be removed professionally. If not removed it can, by its hard consistency and increasing bulk, irritate and destroy the sensitive gum tissues around the teeth on which calculus is found. It acts most effectively by providing an artificial ledge on the tooth, under which bacterial plaque can proliferate.

(iii) *Gingivitis*

Gingivitis is the name given to the initial inflammation of the gum in which it becomes swollen, shiny, redder than normal and liable to bleed painlessly if brushed or scraped. Gingivitis may affect localised areas of irritation, or it may become generalised round the whole mouth.

(iv) *Pocketing*

Pocketing is the name given to the stage of the disease where a cleft or pocket has formed between the tooth and the supporting tissues. In the healthy gum a small pocket or collar exists around the neck of the tooth where the gum joins it, but this is only about 1 mm deep. In the diseased pocket this depth may be increased to as much as 10 mm. This is still a painless condition but the area may bleed when brushed.

(v) *Recession*

Recession describes the process by which an affected gum will recede down a tooth and thereby expose more and more of the root. This is commonly seen in old age. Pain may be experienced due to sensitivity of the exposed root of the tooth but this is not common.

(vi) *Loose teeth*

This is the final stage in the gum disease process. At this stage no treatment can improve the condition and either the loose teeth will be extracted or, if left unattended, may be shed naturally.

7.1 The gum conditions of adults

Gum disease is a very difficult state to measure. Notwithstanding this, some attempt must be made to assess the importance of these conditions in relation to the dental health of the community.

Table 7.1 shows for adults who have some natural teeth, the average number of teeth that are missing, the average number that are present and without any form of gum disease, and the average number of teeth with some form of gum disease. Any one tooth may have evidence of more than one of the conditions indicating gum disease. Consequently the average number of teeth with each of the gum conditions, if totalled, exceeds the average number of teeth with some gum disease.

TABLE 7.1
The average number of teeth with each gum condition
according to age and sex

The average number of teeth with each gum condition	Adults with some natural teeth								
	Aged 16-34			Aged 35 or over			All ages		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Missing	6.3	6.6	6.4	12.4	14.0	13.4	9.4	10.3	10.1
No gum disease	18.3	19.0	19.1	8.8	8.8	9.3	12.2	14.8	14.0
Some gum disease	7.4	5.6	6.5	10.4	8.2	9.3	9.0	4.9	7.9
	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Calculus	4.9	3.4	4.1	7.2	5.7	6.5	6.2	4.5	5.4
Gingivitis	4.2	3.5	3.8	5.3	4.2	4.8	4.8	3.8	4.3
Pocketing	1.1	1.0	1.1	1.2	2.2	2.4	2.2	1.7	2.0
Recession	0.5	0.4	0.4	1.3	1.6	2.6	2.0	1.1	1.5
Loose teeth	0.0	0.0	0.0	0.3	0.2	0.3	0.2	0.1	0.2
Base number	397	419	816	461	417	878	858	836	1694

On average adults aged 16-34 who had some natural teeth had 6-7 that were missing, 6-7 that had some sort of gum disease and 19 that were unaffected by gum disease. Some of the teeth affected by gum disease had more than one of the conditions present. On average 4 teeth showed calculus, 4 had associated gingivitis, 1 had pocketing. The level of recession and loose teeth is, as one would expect in this age group, fairly low. Men in this age group had on average two teeth more than women that were affected by gum trouble, both calculus and gingivitis figuring more prominently.

Among people aged 35 or over, who had some natural teeth, there was of course a much higher level of tooth loss. On average 13-14 teeth were missing. Also there was a higher average number of teeth affected by gum disease, an average of 9-10 teeth. Thus as well as the absolute level of gum disease being higher, the proportion of teeth present that were affected was very much higher than among those under 35 years old.

Among the older age group there was also a higher level of multiple conditions occurring on one tooth. On average 9-10 teeth were affected by gum

disease but for the particular conditions there were on average 6-7 teeth with calculus, 4-5 with gingivitis, 2-3 with pocketing, 2-3 with recession and some evidence of loose teeth.

Thus the more serious stages of gum disease are more evident among the people of greater age.

7.2 Regional variations in gum disease

As with dental decay, we examine those people in the survey aged 16-34 who still had some natural teeth, to see whether there was a regional variation in gum disease. Among this age group the vast majority still retained most of their natural teeth, 78.5% had 24 or more teeth present, and 93.7% had 18 or more teeth present. Thus there were large numbers of teeth present and at risk for gum disease. In Table 7.2 we show the distribution of the number of teeth that had, associated with them, one or more of the gum conditions recorded in the dental examination (calculus, gingivitis, pocketing, recession, or loose teeth).

TABLE 7.2
The number of teeth with one or more of the gum conditions among adults aged 16-34 with some natural teeth, by region

Number of teeth with one or more of the gum conditions	Adults aged 16-34, with some natural teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	%	%	%	%	%
No teeth with gum disease	30.9	31.1	29.0	23.3	27.5
1-3 teeth with some gum disease	22.9	18.9	22.9	23.3	22.4
6-11 teeth with some gum disease	27.8	34.0	33.9	28.1	30.1
12-17 teeth with some gum disease	11.7	11.3	9.3	14.5	12.2
18 or more teeth with some gum disease	6.7	4.7	4.9	10.8	7.8
	100.0	100.0	100.0	100.0	100.0
Base	226	107	186	297	816

Table 7.2 shows for the age group 16-34 the distribution of the number of teeth with some kind of gum trouble, that lies behind the averages shown in Table 7.1. It also shows how the distribution varies in the different regions. In England and Wales as a whole just over a quarter of adults aged 16-34 with some natural teeth had no signs of gum trouble, conversely nearly three quarters of this age group had some gum trouble, even though this age group could be expected to be the most healthy.

Among those aged 35 and over who had some natural teeth over 90% had some gum disease; thus of all ages the proportion of people who still have some natural teeth who also showed some form of gum disease was 82.5%.

A fairly similar amount of gum disease occurred in all the regions, although London and the South East showed a slightly higher level of gum disease than

elsewhere. This variation was not anything like the regional variation found with the proportion of teeth that were decay free.

In earlier sections about decay and its treatment (see Table 6.7) we found that the large regional difference in the level of fillings was mostly accounted for by the different treatment received regionally by those people who only go to the dentist when they are having trouble with their teeth. Although we have found no large regional variation in gum disease among adults aged 16-34, it is of interest to look at the pattern of dental attendance and see how much variation there is with this, and whether regional patterns are then different.

TABLE 7.3
The number of teeth with one or more of the gum conditions among adults aged 16-34, with some natural teeth, according to attendance pattern and region

Number of teeth with one or more of the gum conditions	Adults aged 16-34 with some natural teeth, who generally go for a regular check-up				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	%	%	%	%	%
No teeth with gum disease	43.9	45.6	41.7	27.0	36.6
1-5 teeth with some gum disease	25.0	15.2	21.4	27.0	23.8
6-11 teeth with some gum disease	20.3	28.3	29.7	23.6	24.8
12-17 teeth with some gum disease	4.8	6.5	3.6	12.5	7.9
18 or more teeth with some gum disease	6.0	4.4	3.6	9.9	6.9
	100.0	100.0	100.0	100.0	100.0
Base	84	46	84	152	366

Number of teeth with one or more of the gum conditions	Adults aged 16-34, with some natural teeth, who go to the dentist when they are having trouble				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	%	%	%	%	%
No teeth with gum disease	25.5	19.5	15.5	17.5	19.8
1-5 teeth with some gum disease	19.8	24.4	22.7	17.5	20.4
6-11 teeth with some gum disease	31.1	39.1	39.1	34.0	35.0
12-17 teeth with some gum disease	15.1	12.2	15.5	19.4	16.2
18 or more teeth with some gum disease	8.5	4.8	7.2	11.6	8.6
	100.0	100.0	100.0	100.0	100.0
Base	106	41	84	103	334

As with decay, a much higher proportion of those who are regular attenders have small amounts of disease, in this instance gum disease, than is the case for those who only go to the dentist when they are having trouble: of those who said they go for a regular check-up 36.6% had no teeth with associated gum disease compared with 19.8% of those who only attend when they are having trouble with their teeth.

At the other end of the scale there was a curious distribution. The regular and irregular attenders had similar levels of people with 18 or more teeth affected by gum disease, but at the level 12-17 teeth affected the irregulars were very much worse than the regular attenders.

The regional variations reflected the overall regional picture discussed earlier in this section. London and the South East had more gum trouble whatever the dental attendance pattern.

7.3 Distribution of the gum conditions around the mouth

The different gum conditions which, in this survey, contribute towards gum disease are quite varied. We turn next therefore to examine them individually to see what part they each play, and, in so doing, examine which teeth in the mouth are most at risk for the various conditions.

As with the tooth conditions relating to decay, we present this data diagrammatically. The base statistics are presented in the Appendix.

Figure 7.1 presents, for adults aged 16-34 with some natural teeth, the distribution round the mouth of the four main gum conditions, (the fifth, loose teeth, occurs very infrequently in this age group, and is only shown in table form). Again as with the previous diagrams upper and lower jaws are shown separately and the display shows each individual tooth. The top left 'mouth' shows the level of calculus found on the under-35-year-olds. In the upper jaw calculus is distributed around the mouth at a fairly low level but especially on teeth six and seven; that is at the point of secretion of the saliva glands. In the lower jaw the picture is quite different. The lower six front teeth* are highly affected by calculus. The level is greatest for 'ones' slightly less for 'twos' and decreases again for 'threes'. Practically half of lower incisors are involved with calculus.

The top right 'mouth' shows the level of gingivitis. For this condition there is a fairly even distribution around the mouth except for the lower six front teeth. The amount of gingivitis here is approaching double that for other teeth in the mouth. Except in this area of the lower front six teeth, the level of gingivitis exceeds the level of calculus. At this age pocketing and recession occur fairly infrequently.

Figure 7.2 presents similar results for those aged 35 and over who still have some natural teeth. As remarked upon earlier the reader will notice that there has been a marked loss of teeth from the upper jaw, for this age group. Although there has been a substantial loss of back teeth from the lower jaw this has not been accompanied by any large loss of front lower teeth.

The levels of all the gum conditions are much higher for this age group, the teeth most affected being the lower front six. It is curious to see how the maximum frequency of gum disease is associated with the teeth most universally retained in the mouth.

* Six front teeth defined as canines and incisors (referred to numerically as 3, 2, 1, 1, 2, 3).

7.4 Distribution of the gum conditions around the mouth according to dental attendance pattern

The Figures 7.3-7.6 show diagrammatically the level and distribution of the various gum conditions for the two different age groups and according to whether the adults attend for a regular check-up or whether they only go when having trouble with their teeth.

For those who are under 35 years old the difference in the level of calculus according to dental attendance pattern is very great. In the lower jaw about 40% of the 'ones' had calculus among the regular check-up people. Nearly 70% of the 'ones' among irregular attenders had calculus on them.

Gingivitis occurred more often among those who were irregular dental attenders but there was a considerable amount of gingivitis even among the regular check-up people. Pocketing and recession were worse for the non-regulars but still occurred at a low level in this age group.

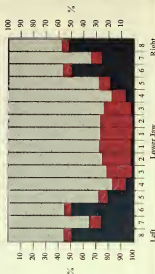
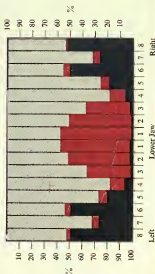
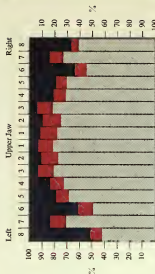
Among those aged 35 and over we have already seen that the levels of all gum conditions are higher. The regular check-up people do not escape gum disease, but the non-regular attenders have a higher level of trouble which is also more widespread. By this age about a quarter of the total number of lower front teeth are showing pocketing and/or recession among those with a non-regular attendance pattern. Despite this the teeth are still standing.

FIGURE 7.1 The distribution of gum conditions around the mouth, for adults aged 16-34, with some natural teeth.

(i) CALCULUS.



(ii) GINGIVITIS.



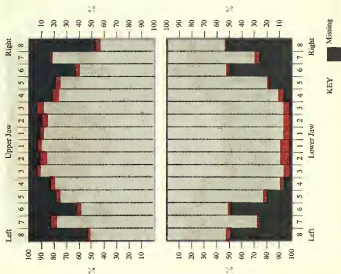
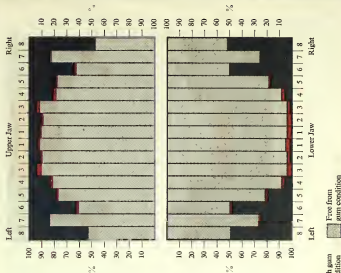
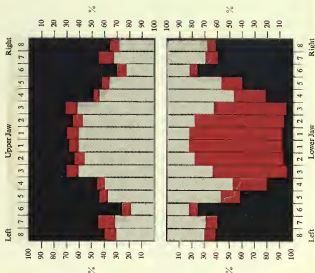
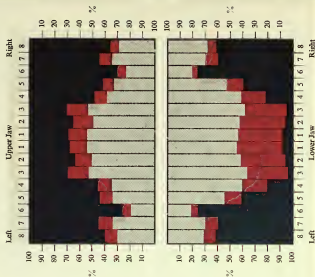
(iii) *POCKETING.*(iv) *RECESSION.*

FIGURE 7.2 The distribution of gum conditions around the mouth, for adults aged 35 or more, with some natural teeth.

(i) CALCULUS.



(ii) GINGIVITIS.



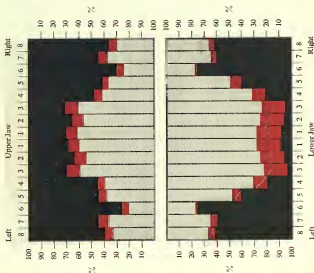
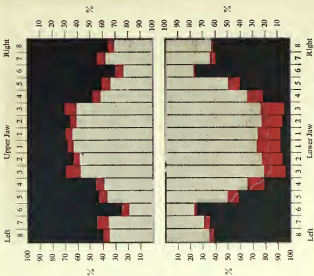
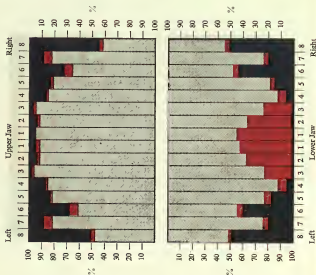
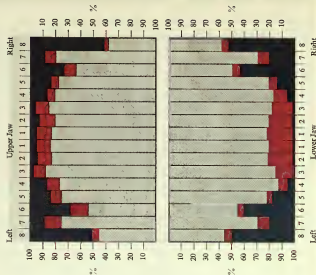
(iv) *POCKETING.*(v) *RECESSION.*

FIGURE 7.3 The distribution of gum conditions around the mouth, for adults aged 16-34, with some natural teeth, who attend for a regular check-up.

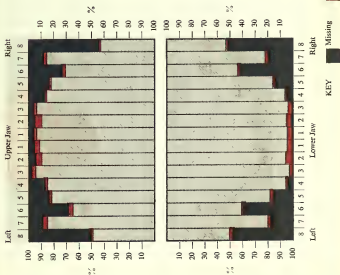
(i) CALCULUS.



(ii) GINGIVITIS.



(iii) POCKETING.



(iv) RECESSION.

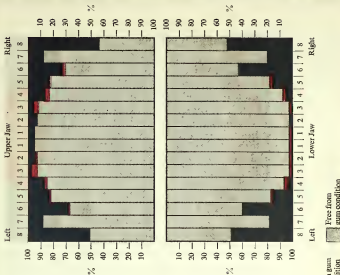
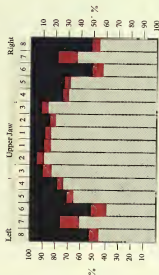
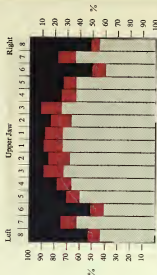


FIGURE 7.4 The distribution of gum conditions around the mouth, for adults aged 16-34, with some natural teeth, who attend only when they are having trouble.

(i) CALCULUS.



(ii) GINGIVITIS.



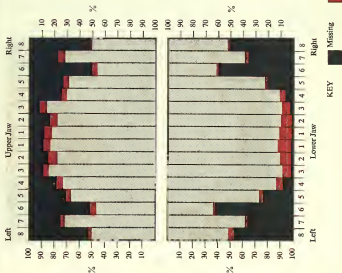
(iii) POCKETING.

(iv) RECESSION.

Right

Lower Jaw

Left

(iii) *POCKETING.*

Right

Lower Jaw

Left

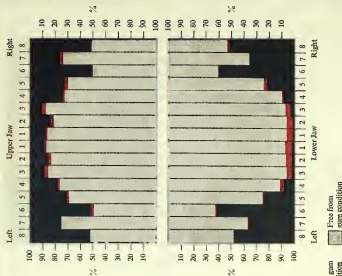
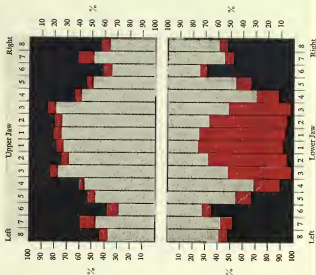
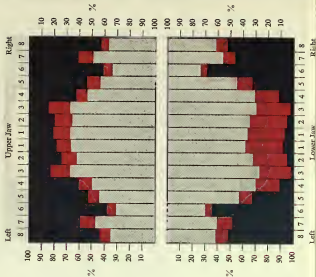
(iv) *RECESSION.*

FIGURE 7.5 The distribution of gum conditions around the mouth, for adults aged 35 or more, with some natural teeth, who attend for a regular check-up.

(i) CALCULUS.



(ii) GINGIVITIS.

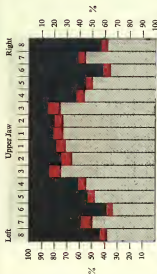


(iii) POCKETING.

(iv) RECESSION.

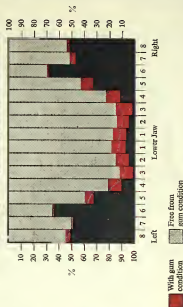
Left Lower Jaw Right

(III) POCKETING.



Left Lower Jaw Right

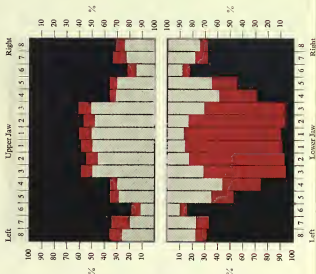
(IV) RECESSION.



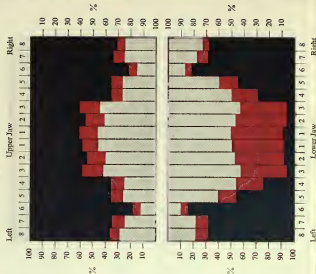
KEY
 Missing
 With gum condition
 Free from gum condition

FIGURE 7.6 The distribution of gum conditions around the mouth, for adults aged 35 or more, with some natural teeth, who attend only when they are having trouble.

(i) CALCULUS.



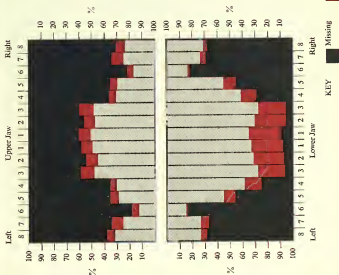
(ii) GINGIVITIS.



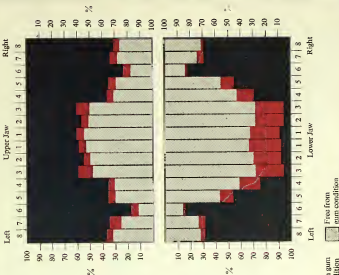
(iii) POCKETING.

(iv) RECESSION.

(iii) *POCKETING.*



(iv) *RECESSION.*





PART IV—DENTURES

A denture is defined as a removable plate with false teeth attached. For people with no natural teeth dentures consist of an upper and a lower plate carrying up to twenty eight teeth. No replacement is made for wisdom teeth. For people with some natural teeth and some false teeth the denture they need may consist of both an upper plate and a lower plate, or either an upper plate or a lower plate. The number of teeth on a plate may vary from one to fourteen.

To avoid confusion in terms about people who have a combination of natural and false teeth the following definitions will be used for denture wearers.

- A totally dentured person —a person with no natural teeth, who has been provided with dentures since losing all his natural teeth.
- A partially dentured person —a person with some natural teeth who has been provided with dentures to wear in conjunction with the remaining natural teeth.
- Full upper denture —a denture usually consisting of 14 teeth for the upper jaw.
- Full lower denture —a denture usually consisting of 14 teeth for the lower jaw.
- Partial upper denture —a denture consisting of fewer than 14 teeth for the upper jaw, to be worn in conjunction with natural teeth in the upper jaw.
- Partial lower denture —a denture consisting of fewer than 14 teeth for the lower jaw, to be worn in conjunction with natural teeth in the lower jaw.

Thus a totally dentured person has been provided with a full upper and lower denture. A partially dentured person still has some natural teeth but has also been provided with some form of dentures. The form of dentures required can vary very greatly, sometimes involving a full denture for one jaw and a partial denture for the other, sometimes merely involving one tooth on a plate for one jaw.

8.0 THE FUNCTION OF NATURAL TEETH

Natural teeth have more than one role to play in life. They contribute to the physical appearance of each individual, they affect speech and are required for the purpose of eating efficiently.

As far as physical appearance is concerned the teeth in the upper jaw are likely to play a larger part than those in the lower jaw, for when a person talks or smiles it is generally the teeth in the upper jaw which are seen. Upper canines and incisors are the teeth which usually show but for people with very wide smiles upper premolars may also show.

With respect to eating, different types of teeth have different functions. Originally the incisors were responsible for cutting small pieces of food from larger quantities. The canines enabled a grip to be taken on the food. The premolars and molars were grinding teeth, and were responsible for reducing the food to a form that could be swallowed and digested. The molars played a bigger part in this grinding role than the premolars since they had a much larger surface area, and in any case outnumber the premolars. But of course nowadays the original role of the teeth is of much less importance because of the soft foods that make up a high proportion of the diet in this country.

Although the two jaws have the same number and type of grinding teeth there are certain differences between the upper and lower jaws. Firstly, the upper jaw is fixed and movement of it involves movement of the whole head, whereas the lower jaw is not fixed and can be moved upwards and downwards, backwards and forwards, and from side to side. Secondly, although the two jaws have the same number and type of teeth, the shape of the upper jaw grinding teeth is distinctly different from that of the lower jaw teeth. This is particularly the case for premolars. Upper premolars have a trough running along the middle which makes them more pointed than the lower premolars. The premolars in the lower jaw are more rounded. This difference in structure can also be seen on the molars' biting surfaces. Thus the two jaws play complementary but not identical roles in the process of grinding and chewing.

We have already seen in Section 6.7 that molars and premolars are the teeth most affected by decay and loss. As successive tooth loss occurs there is therefore the problem of how to maintain the ability to chew. It is fairly certain that some malfunction occurs with any tooth loss. It is also true to say that some people manage to live or exist without natural teeth or dentures. The relevant question is, therefore, at what level of tooth loss would it be reasonable for a dental service to aim at treatment for partial tooth loss, either for the sake of appearance or to help people to enjoy eating a wide range of foods?

The survey provides some information as to the amount of total tooth loss and whether or not dental treatment has been received to improve the situation. There are really only two ways of providing treatment for partial tooth loss. Bridgework or dentures can be fitted. We have already seen in earlier sections that the amount of bridgework carried out is very small indeed, in fact too small to be considered as a separate entity. The most common form of treatment for partial tooth loss, if treatment is obtained, is the provision of dentures.

At the preliminary stage of this inquiry we were concerned that the examination should not be overloaded. The information recorded about dentures was therefore carried out independently of the recording for the natural teeth. With hindsight we would organise this operation rather differently in future. There are two facts not available to us now which are very important when analysing function and the provision of dentures for partial tooth loss. In future, if a dental examination in the home was not supplemented by X-rays, we would record for each missing tooth the size of the gap. Secondly we would record for each missing tooth whether the space had ever been fitted with a denture. Although there are some definition problems with collecting these items of information, they are very necessary if any attempt is to be made to estimate the need and provision of dentures for partial tooth loss.

8.1 Partial tooth loss and dentures

The survey data provided some information as to the level of partial tooth loss that was suffered and whether the person had ever had any dentures. We were interested to see whether there was any particular level of tooth loss that resulted in the provision of dentures. In Table 8.1 we show the distribution of partial tooth loss in relation to whether there are any front* teeth missing and the number of back† teeth missing. For each level of tooth loss the proportion of people with a denture is shown. Since each jaw can be provided with a denture the results are shown separately for upper and lower jaws.

TABLE 8.1
Replacement by dentures, for certain patterns of partial tooth loss,
shown for upper and lower jaws separately

Pattern of tooth loss		Adults of all ages with some natural teeth			
		Upper jaw		Lower jaw	
Back† teeth missing		No.	Proportion with upper denture	No.	Proportion with lower denture
No front* teeth missing	0-3	850	2.2%	1,065	2.2%
	4-6	224	13.4%	289	14.2%
	7-9	93	57.0%	182	53.3%
	10	14	71.4%	32	65.6%
	Total	1,181	9.5%	1,568	11.6%
1-5 front teeth missing	0-3	107	59.8%	41	41.5%
	4-6	88	72.7%	21	57.1%
	7-9	93	81.7%	40	70.0%
	10	16	75.0%	16	75.0%
	Total	304	71.1%	118	58.5%
6 front teeth missing	0-3	2	—	1	—
	4-6	4	—	—	—
	7-9	9	—	4	—
	10	194	98.0%	3	—
	Total	209	97.6%	8	—
Total		1,694	31.4%	1,694	15.2%

*Front teeth defined as incisors and canines (3-3).

†Back teeth defined as premolars and molars (4-8).

The table includes adults, of all ages, with some natural teeth. Considering the loss of front teeth, and ignoring back teeth for the moment, 9.5% of people with no upper front teeth missing have an upper denture, 71.1% of those with 1-5 upper front teeth missing have an upper denture, and 97.6% of those with all 6 upper front teeth missing have an upper denture. Thus missing upper front teeth play a very important part. Practically all people who have all 6 upper front teeth missing have, in fact a full clearance of the upper jaw.

In the lower jaw 11.6% of people with no lower front teeth missing have a lower denture, 58.5% of those with 1-5 lower front teeth missing have a denture. The situation of having a lower jaw clearance without also having an upper jaw clearance, rarely happens. A fairly high proportion of missing front teeth in the lower jaw are replaced by a denture, but missing lower front teeth are not so frequently replaced as missing upper front teeth.

What is the effect of missing back teeth? The level for replacement can be seen from examining those who have no front teeth missing. Well over half of those who have 7-10 missing back teeth in one jaw have a denture. The levels are not dissimilar for upper and lower jaws. The provision of dentures for back teeth only is fairly uncommon where fewer than seven teeth are missing from one jaw.

The amount of tooth loss suffered increases very radically with age. We investigate next, therefore, whether the provision of dentures varied in the different age groups according to the pattern of loss, or whether different age groups had an entirely different level of provision of dentures for the same patterns of partial tooth loss.

The importance of missing front teeth was similar for each age group, and the relatively greater importance of upper jaw front missing teeth was apparent in each age group, as it had been with all ages together. The level of provision of dentures for back teeth only was equal for all age groups for each particular level of missing teeth. Thus, for each age group, over half of those with 7-10 missing back teeth in one jaw had a denture, whereas with fewer than 7 teeth missing from any one jaw very few had a denture. The only effect of age, therefore, was that the older the group of people the greater the number of teeth missing, but as far as provision of dentures was concerned this was a function of tooth loss, not of age.

We examined next whether the provision of dentures differed for given amounts of partial tooth loss, according to dental attendance pattern. A larger proportion of people had considerable tooth loss among those who only attend when they have trouble with their teeth. In this case, however, there was also a different level of provision for the particular patterns of tooth loss. As in earlier discussions missing front teeth were of considerable importance but these were replaced more often for people who attended regularly (81.0% upper jaw) than they were for those who only attended when they were having trouble (64.3% upper jaw). The numbers are fairly small for these analyses but it would seem that the provision of dentures for missing back teeth in the upper jaw was carried out more often among regular attenders with 7-10 back teeth missing, than the comparable group of irregular attenders (over 80% among regulars, under 40% for irregulars). As far as the lower jaw was concerned provision took place equally for both groups.

The explanation for this probably lies in the fact that a much higher proportion of irregular attenders have a complete top jaw clearance, whereas very few of the regular attenders have that many of their top jaw teeth missing.

8.2 Potential denture wearers according to partial tooth loss at the time of the survey

In the previous section we investigated the replacement level for each jaw separately. We now examine the two jaws in combination. Among adults with some natural teeth 33.2% had, or had previously had, dentures in conjunction with natural teeth. We have already seen from Table 8.1 that a very high proportion of front tooth loss is replaced by a denture when the upper jaw is concerned, and quite a high proportion is replaced when the lower jaw is concerned.

We cannot tell how many people in the survey have front* teeth missing for which the gaps have closed, but we do know that an additional 9.5% of adults with some natural teeth have one or more missing front teeth with no replacement denture. This includes people with extensive tooth loss which involves both front and back teeth. Thus the maximum level of need for dentures to replace front teeth not already catered for is 9.5% of those with some natural teeth.

We were also very interested in denture replacement for back† teeth only. Table 8.1 showed that, given that all front teeth were present, there was a marked increase in the provision of dentures when 7 or more back teeth were missing from one jaw. There were 53 people in the survey who met this requirement for either or both jaws and who had dentures. This included 28 who had upper and lower dentures, 17 who had upper dentures only and 8 who had lower dentures only.

By comparing the pattern of tooth loss in these three groups, (back tooth loss replaced by upper and lower dentures, back tooth loss replaced by upper denture only, back tooth loss replaced by lower denture only), we tried to establish the limiting factor which determined whether a denture was provided. For example, what were the patterns of tooth loss in the lower jaw of those people who had upper dentures only? How did these compare with the tooth loss experienced by those who had both upper and lower dentures?

The factor which appeared to be of importance was whether there was a gap of three back teeth in a row or not. Of the 28 people who had both upper and lower dentures, 24 had at least one gap of at least 3 teeth in both jaws. The other 4 people had either upper premolars missing which might well have left visible gaps, or a large number of teeth missing but scattered. Of the 17 people who had an upper denture only, all had a gap of at least 3 teeth in the upper jaw. Only 4 had a gap of at least 3 teeth missing in the lower jaw, but two of these consisted of 3 molars missing, which in denture replacement terms is in fact only 2 teeth, since wisdom teeth are not generally replaced on a denture. Of the 8 who had a lower denture only all had a gap of at least 3 teeth in the lower jaw, only 3 had a gap of 3 or more teeth in the upper jaw and in one case this involved a wisdom tooth.

It would therefore appear that a gap of at least three back teeth, excluding wisdom teeth, is a relevant level of tooth loss for replacement.

In the sample there were 55 people with some natural teeth, no dentures, all front teeth present but 7 or more back teeth missing from either or both of their jaws. That is the group that are comparable with the partially dentured persons we have been discussing except that they have no dentures. We applied the factor of a gap of at least 3 back teeth, excluding wisdom teeth, to see how many of them would thus on this premise be potential denture wearers. On this basis 19 would have both upper and lower dentures, 19 would have upper dentures only, 15 would have lower dentures only and 2 would have no dentures at all. Thus virtually all adults with front teeth present but as many as 7 back teeth missing are potential denture wearers. If this potential need was met the number of partially dentured persons for this amount of tooth loss would double. In terms of all adults with some natural teeth it would mean the provision of dentures for a further 3.1% of those with some natural teeth.

*Front teeth defined as canines and incisors (3-3).

†Back teeth defined as premolars and molars (4-8).

We examined all the people with no missing front teeth but 7 or more missing back teeth in either or both jaws, to establish the difference in the proportion of regular attenders who had dentures compared with the proportion of irregular attenders. The proportion was 75.6% of the regular attenders had dentures but only 38.1% of those who only attend when they have trouble with their teeth.

We have been considering gross tooth loss, 7 or more back teeth missing in one jaw. In addition to this there was a certain amount of replacement for back tooth loss among those retaining all of their front teeth at a less severe level of tooth loss. There were 16 people who had dentures for back tooth loss when fewer than 7 back teeth were missing in either jaw. Of these 10 had gaps of at least three back teeth missing, excluding wisdom teeth, 4 had missing upper premolars and another two had fairly numerous but scattered losses.

Thus even at lower levels of tooth loss it would appear that a gap of at least 3 back teeth missing, all front teeth being present, is fairly crucial. How many people were there in the sample who had gaps of this extent but who did not have dentures?

There were a further 107 people who had all their front teeth present, who did not have as many as 7 back teeth missing from either jaw, but did have a gap of at least 3 back teeth missing, excluding wisdom teeth, and did not have a denture. Thus, on this definition of requirement, a further 6.3% of adults with some natural teeth were potential denture wearers.

It is extremely difficult to define the extent of tooth loss that needs replacement by a denture, but if the two criteria discussed above are considered as indicators of possible potential need, (that is missing front teeth or a gap of at least 3 back teeth, excluding wisdom teeth) then an additional 18.9% of adults with some natural teeth are potential denture wearers. This level was based on the pattern of missing teeth as at the time of the survey dental examination. If these potential denture wearers were to be fitted with dentures it would raise the present proportion of partially dentured persons by over half.

Using the premise that a front tooth missing, or a gap of 3 back teeth together, excluding wisdom teeth, is a level of tooth loss which needs replacement is, of course, only one method of assessing denture need for partial tooth loss. It has been developed in this section since it followed naturally from an examination of the patterns of partial tooth loss which existed. It is, however, a very crude estimator. Nevertheless losses which do not reach the extent of gaps of 3 back teeth, excluding wisdom teeth, may in fact need replacement.

One method of assessing denture need is by examining opposing teeth units. There are considerable problems in doing this from the survey data because of the drift of teeth. Also the exact pattern of what had been replaced by dentures was not known. Such an analysis would be very detailed and it was felt that a preliminary look at the problem of tooth loss in terms of the premise above would be useful as a first assessment. Subsequently more detailed analysis might well be considered.

8.3 Partially dentured persons

The previous results lead us to a closer look at the people who actually have been provided with dentures to use in conjunction with their remaining natural teeth. One in three of those who still have some natural teeth have a combination

of natural teeth and false teeth. Within this group we have included all people who have ever had a denture, whether or not they currently wear it.

A partially dentured person may have an upper denture only, or a lower denture only or a denture for both jaws. Each denture can vary from one tooth on a plate to a full denture for one jaw, although the combination of a full denture for both jaws does not arise since such a person would be a totally dentured person. Table 8.2 shows the distribution of partially dentured persons according to the combinations of dentures for the upper and lower jaws.

TABLE 8.2
The distribution of different types of dentures among partially dentured persons

Denture pattern		Proportion of all partially dentured persons
Upper jaw	Lower jaw	
Full denture	— None	% 16.4
Full denture	— Partial denture	17.1
Partial denture	— Partial denture	23.3
Partial denture	— None	37.9
None	— Partial denture	5.2
Partial denture	— Full denture	0.1
None	— Full denture	0.0
		100.0
Base		562

Although 94.8% of partially dentured persons have an upper denture of some kind, only 45.7% have a lower denture. For 33.5% of partially dentured persons the denture involved a full upper plate, for 16.4% of partially dentured persons this full upper plate was opposed by natural teeth only, for 17.1% of partially dentured persons the full upper denture was opposed by a partial lower denture. Only 0.1% of partially dentured persons had a full lower denture.

We examined the denture pattern by variables such as region, dental attendance pattern and age, to see whether the sorts of dentures varied among different groups of people.

Extensive loss of teeth is, of course, more frequent in the older age groups. Among partially dentured persons aged 55 or more, 45.8% had a full upper jaw clearance, whereas among those aged 16-34 only 12.4% had a full upper jaw clearance. The comparable proportion for those aged 35-54 is 39.0%. It is impossible to tell from a survey, carried out at one point in time, whether this variation between age groups is symptomatic of age itself, or of living through a different period of dental history.

Full clearance of the upper jaw is not very evident among those partially dentured persons who attend for a regular check-up (14.8%), the majority of regular attenders (52.3%) have a partial upper denture but no lower denture. On the other hand, among those who only attend when they have trouble with their teeth 47.5% have an upper jaw clearance. We are, at this point, considering people of all ages, some of whom may have become irregular dental attenders as their number of natural teeth dwindled.

Regionally the differences with regard to upper jaw clearance are not very great. There is, however, a difference between the North and London and the

South East, in whether the full upper jaw clearance is associated with a lower jaw denture or not. Proportionately twice as many people in the North have no lower denture as in London and the South East.

TABLE 8.3
The distribution of different types of dentures, for partially dentured persons, by region

Denture pattern		Adults with some natural teeth who have (had) a denture				
		The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
Upper jaw	Lower jaw	%	%	%	%	%
Full denture	—None	22.6	17.9	19.7	10.3	16.4
Full denture	—Partial denture	11.9	8.9	19.4	21.0	17.1
Partial denture	—Partial denture	22.5	17.9	22.2	25.6	23.3
Partial denture	—None	37.7	51.4	34.2	36.6	37.9
None	—Partial denture	4.0	3.3	4.3	6.3	5.2
Partial denture	—Full denture	1.3	—	—	—	0.1
		100.0	100.0	100.0	100.0	100.0
Base		151	56	117	236	562

TABLE 8.4
The distribution of different types of dentures for partially dentured persons by dental attendance pattern

Denture pattern		Adults with some natural teeth who have (had) a denture			
		Regular check-up	Occasional check-up	Only when has trouble	All
Upper jaw	Lower jaw	%	%	%	%
Full denture	—None	7.1	4.3	23.9	16.4
Full denture	—Partial denture	7.7	12.8	23.6	17.1
Partial denture	—Partial denture	24.3	31.9	21.4	23.3
Partial denture	—None	52.3	44.7	28.0	37.9
None	—Partial denture	8.6	4.2	2.8	5.2
Partial	—Full denture	—	2.1	0.3	0.1
		100.0	100.0	100.0	100.0
Base		197	47	318	562

TABLE 8.5
The distribution of different types of dentures for partially dentured persons, by age

Denture pattern		Adults with some natural teeth who have (had) a denture			
		16-34	35-54	55 or more	All ages
Upper jaw	Lower jaw	%	%	%	%
Full denture	—None	6.2	18.0	22.2	16.4
Full denture	—Partial denture	6.2	19.0	23.6	17.1
Partial denture	—Partial denture	21.0	22.5	26.4	23.3
Partial denture	—None	60.4	34.3	25.0	37.9
None	—Partial denture	5.4	6.2	2.1	5.2
Partial denture	—Full denture	0.8	—	0.7	0.1
		100.0	100.0	100.0	100.0
Base		129	289	144	562

Wearing dentures in conjunction with natural teeth is an intermediate stage in dental health. It lies between having sufficient natural teeth and having none at all. The analysis of this stage of dental health is very difficult because the people who have dentures are in no way exhaustive of those who need them. As we have seen there are those in the community who have lost considerable numbers of teeth but do not have dentures. But the problem is further complicated by the fact that there is a stage of dental health beyond being a partially dentured person, that is, being a totally dentured person. From the large number of partially dentured persons who have a full upper jaw clearance, which is not the natural pattern of development of disease, one can deduce that others in like circumstances went to being totally dentured persons. In fact in the next section we shall see that half the people who have become edentulous within the last twenty years, did so without ever having had partial dentures. Many of such people had more than twenty teeth extracted on the last occasion. Some of these people must surely have been potential partially dentured persons. Looking at existing partially dentured persons and those who have as yet no dentures is not therefore going to provide a complete explanation. This problem can only be thoroughly investigated by conducting a longitudinal study, thus recording the changing state of dental health as it occurs.

9.0 THE CIRCUMSTANCES OF TOTAL TOOTH LOSS

As we have already commented, once teeth have been extracted there is no way of knowing, from a subsequent examination of the mouth, why they were extracted. During the interview we therefore asked people who had lost all their natural teeth if they could tell us some of the details about the circumstances in which they lost them.

Such information was, of course, dependent on the memory of the informant, and on the detail he or she had been given at the time. To make the task less burdensome for those who had all their natural teeth extracted many years ago* we confined the more detailed questions to people who had lost the last of their natural teeth within the last twenty years; that is during the life time of the National Health Service. The results in this section are about these people, who lost the last of their natural teeth within the last twenty years.

We examine first the number of teeth taken out at the final extraction and show this in relation to whether the person had any dentures prior to total tooth loss. The number of teeth extracted have been grouped into three large ranges, up to 11, 12 to 20 and 21 or more.

Table 9.1 shows that among people who became edentulous within the last twenty years, half had no dentures before losing all their natural teeth. As would be expected the number of teeth extracted from those who did not previously have a denture was much greater than the number extracted from those who did. For over half of the people without dentures more than twenty teeth were extracted. Even among those who did have dentures 14.0% had extractions of large numbers of teeth on the last occasion. It seems unlikely, from all the results so far presented, that such a large proportion of people had that many teeth that were completely unrestorable. We know, for instance, that the lower canines and incisors are not very prone to decay, and that although these teeth are subject

*About 45% of people with no natural teeth, lost the last of their natural teeth before 1948.

to gum disease a large proportion of people who keep these teeth manage to do so despite the gum disease. It would seem likely that some of the people who became edentulous after extensive extractions might instead have become partially dentured persons rather than edentulous.

TABLE 9.1
The number of teeth extracted on the last occasion according to whether the person was partially dentured at the time or not

Number of teeth extracted on the last occasion	Adults, in England and Wales, who had the last of their natural teeth extracted during the last twenty years		
	Partially dentured at the time	Not partially dentured at the time	All
1-11	% 52.7	% 12.0	% 32.2
12-20	33.3	34.0	33.6
21 or more	14.0	54.0	34.2
	100.0	100.0	100.0
Base	264 (49.6%)	268 (50.4%)	532 (100.0%)

We have been concerned throughout the report to find explanations for the large regional variation in the level of total tooth loss. We therefore examine the number of teeth extracted on the last occasion, in the different regions. Again the results are presented separately for those who had partial dentures prior to full extraction and those who did not.

In England and Wales as a whole, 48.9% of people, who had the last of their natural teeth extracted within the last twenty years, had a partial denture. Regionally the comparable proportions were 44.0% in the North, 54.5% in Wales and the South West, 50.4% in the Midlands and East Anglia and 51.0% in London and the South East. Thus the proportion of partially dentured persons was lowest in the North.

Table 9.2 shows, as did the figures for England and Wales as a whole, that the number of teeth extracted on the last occasion varies greatly according to whether or not the person previously had a denture.

As far as partially dentured persons were concerned the number of teeth extracted tended to be fewer in London and the South East than elsewhere. As far as people who had not had dentures were concerned considerably more large scale extractions were carried out in the North than elsewhere, 62.0% having more than twenty teeth extracted.

Since a greater proportion of people in London and the South East had had a denture prior to losing all their teeth, and since a greater proportion of people in the North had not, the regional variation in the number of teeth extracted was amplified when all the adults were considered together. Thus 41.0% of people in the North who lost the last of their teeth during the last twenty years, had more than twenty teeth extracted. The comparable proportion in London and the South East was 29.0%.

It would therefore seem that the path to becoming edentulous was somewhat more direct in the North than in London and the South East.

TABLE 9.2

The number of teeth extracted on the last occasion by region and whether the person was partially dentured at the time or not

Number of teeth extracted on the last occasion	Adults who had the last of their natural teeth extracted during the last twenty years				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	Adults who previously had dentures				
1-11	% 47.2	% 57.4	% 48.2	% 59.9	% 52.7
12-20	37.1	32.0	32.8	30.0	33.3
21 or more	15.7	10.6	19.0	10.1	14.0
	100.0	100.0	100.0	100.0	100.0
Base	89	47	58	70	264
	Adults who previously did not have dentures				
	%	%	%	%	%
1-11	8.3	10.5	14.8	16.3	12.0
12-20	29.7	44.7	33.4	35.3	34.0
21 or more	62.0	44.8	51.8	48.4	54.0
	100.0	100.0	100.0	100.0	100.0
Base	108	38	54	68	268
	All				
	%	%	%	%	%
1-11	26.0	36.5	32.2	36.4	32.2
12-20	33.0	37.6	33.0	32.6	33.6
21 or more	41.0	25.9	34.8	29.0	34.2
	100.0	100.0	100.0	100.0	100.0
Base	197	85	112	138	532

10.0 DENTURE WEARERS

We have already discussed the type of partial tooth loss that was replaced by dentures. We now turn to the question of whether the dentures are worn or not, and the sorts of problems people have with them. Any such discussion is more straightforward for totally dentured persons, since the type of denture they have is known by definition. Whereas partially dentured persons are very varied in the kinds of dentures they have. In addition partially dentured persons have the problem of wearing false teeth in conjunction with their remaining natural teeth, because of these differences we examine the two groups separately.

10.1 The wearing of dentures by totally dentured persons

In the sample there were 1,078 people with no natural teeth at all. Of these 97.4% had a full set of dentures. Those who had no dentures included 15 people who had never had any dentures, and 12 who had had some in the past but no longer had any. Among those who had never had dentures 2 were unable to

wear any because of physical disabilities, 4 were awaiting their first full dentures having recently lost the last of their natural teeth, 9 people could manage very well without dentures and did not want to bother with them. Among those who no longer had any dentures 2 people had given up because the dentures hurt so much, the rest had lost them or broken them and had not had them replaced. Altogether 4 people mentioned the expense as a contributory factor in not having any dentures.

There remained 1,051 people with full dentures. Nevertheless, not all of those people who had dentures necessarily wore them. This occurred in two ways, some people never wore them at all, others wore them but only some of the time.

There were 22 people who never wear both the upper and lower denture, 2 people never wear the upper denture and 50 people never wear the lower denture. Thus 74 people with a full set of dentures never wear all or part of them.

In addition, 92 people said that they do not wear all of the set or part of the set for the whole of the day time. This was made up of 72 people who wear both upper and lower dentures part of the day only, 2 who wear the upper denture part of the day only, and 18 who wear the lower denture part of the day only. Thus out of 1,078 people with no natural teeth, 82.1% were in possession of a full set of dentures which they were in the habit of wearing all day. These figures are presented in Table 10.1.

TABLE 10.1
The wearing of dentures by adults with no natural teeth

Whether wears dentures	Adults with no natural teeth		
	Number	Proportion of those with no natural teeth	Proportion of those who have a full set of dentures
Never had dentures	15	1.4%	
Had dentures but no longer has them	12 } 27	1.1	2.5
Never wears both upper and lower denture	22	2.0	2.1
Never wears upper denture but wears lower denture	2 } 74	0.2	0.2
Never wears lower denture but wears upper denture	50	4.6	4.8
Wears upper and lower denture part of day only	72	6.7	6.8
Wears upper denture part of day only	2 } 92	0.2	0.2
Wears lower denture part of day only	18	1.7	1.7
Wears upper and lower dentures all day	885	82.1	84.2
	1078	100.0	100.0

Leaving out those who have no dentures and considering only the people who have dentures, the proportion who wear them all day is raised to 84.2%. The results show that the lower denture causes considerably more trouble than the upper denture.

We examined how the proportion of people who wore their full set of dentures all day varied with other factors. There was only a slight regional variation, and that was due to the fact that there are more young totally dentured persons in the North, and there was a slight tendency for the proportion of people wearing their dentures all day to be higher among the young. The only sizeable variation with age, however, was among the 75-year-olds and over. Here the level of wearing dentures all day was somewhat lower than average, at 71.6%. Variation with region and age did not seem of sufficient importance for presentation in detail in table form.

Table 10.2 shows the pattern of denture wearing in relation to household social class. The proportion wearing their full set of dentures all day ranged from 89.1% among the group of social classes I, II and III non-manual, to 77.8% among social classes IV and V. Social class IV and V also had a higher proportion of people without any dentures, a higher proportion who never wore them, and a higher proportion who wore them only part of the day time.

TABLE 10.2
The wearing of dentures by household social class, for
adults with no natural teeth

Whether wears dentures	Adults with no natural teeth			
	Household social class			
	I, II and III non-manual	III manual	IV and V	All*
Has no denture	0.8	2.5	3.9	2.5
Never wears all or part of denture	3.9	6.1	9.6	6.8
Wears denture part of the day only	6.2	9.3	8.7	8.6
Wears denture all day	89.1	82.1	77.8	82.1
	100.0	100.0	100.0	100.0
Base	257	364	311	1078

*This total includes the housewife, student, unemployed and unclassifiable categories, which are not included elsewhere in the table.

We were interested to know the reason behind why people either never wore their dentures, or wore them only part of the day time. An equal proportion, approximately a third, of people among those who never wore their dentures and those who wore them only part of the time, said that the dentures hurt them. Over a quarter of the people who never wore their dentures said this was because the denture was loose, very few of those who wore them only part of the time said the reason was because the denture was loose. Other reasons were given for not wearing them all the time, such as food not tasting the same when wearing dentures, the mouth not feeling the same with dentures in. The solution to these problems seemed to be not to wear the denture for that part of life for which they were found to be disagreeable.

Of the 92 people who only wear their dentures for a limited time, 64 wear them for the sake of appearance, 12 wear them for eating, 12 take them out for eating, 8 wear them when their mouth is not sore, and the other 6 wear them sporadically.

We asked all the totally dentured persons whether they were satisfied with their dentures. If they did not claim to be very satisfied with them we asked whether they were planning to see a dentist about the problem. Among those who wear their dentures all day, 80.5% were very satisfied with them, 10.6% said they were not very satisfied but did not plan to see a dentist, and 8.9% said they did plan to see a dentist. Among those who wear their dentures part of the day time only, 48.9% were very satisfied with them, 25.3% did not intend to see a dentist about them but 22.8% thought they would.

Among those who never wear part or all of their dentures 31.1% were very satisfied with them, 13.5% thought they might see a dentist about them but 55.4% were prepared to continue as they were.

Quite a proportion of people who do not wear their dentures all day, do not feel dissatisfied with the dentures themselves, and quite a high proportion do not intend to do anything about it, even if they are not completely satisfied with them.

During the interview, people who wore their dentures at least part of the daytime, were asked whether they had any difficulties with their dentures in a selection of every day situations, such as when they were laughing, yawning, talking, chewing meat or biting into a raw apple. Table 10.3 shows the proportion of people who had some difficulty with these situations. The results are shown separately for those who wear their dentures all day and those who only wear them for part of the day.

TABLE 10.3
The proportion of totally dentured persons who wear their dentures at least part of the daytime, who have difficulties with their dentures in selected everyday situations

Totally dentured persons who wear their dentures at least part of the day time	Proportion who have difficulty with their dentures when:				
	Laughing	Yawning	Talking	Chewing meat	Biting into a raw apple
Wears dentures all day	6.0%	7.4%	6.2%	14.6%	45.8%
Wears dentures part of day	13.4%	16.2%	17.3%	39.0%	70.6%
All	7.2%	8.2%	7.5%	16.9%	48.2%

Laughing, yawning and talking caused difficulties about equally among those who wear their dentures at least some of the time; 7-8% of totally dentured persons who wear their dentures had some difficulty. A higher proportion of those who wear their dentures only part of the time, had difficulty with these three situations than the proportion among people who wear their dentures all day. The major cause of the difficulty was, for all three situations, that the dentures were too loose. In the case of talking about a third of those who had some difficulty said the dentures made them lisp.

The proportion of people having some difficulty rose appreciably when chewing meat was considered; 14.6% of those who wear their teeth all day have some difficulty with chewing meat; 39.0% of those who wear their dentures only part of the time have difficulty with chewing meat. The two main reasons given for these difficulties were that the dentures were too loose to chew meat, or that the person could not bite with dentures.

Biting into a raw apple was difficult for nearly half of the people who wear their dentures all day, and for nearly three quarters of those who wear their dentures only part of the day. Again the main reasons were that people felt that their teeth were too loose to be able to bite into an apple without displacing their teeth, and that wearing dentures does not enable a person to bite.

Since dentures are removable, false teeth can never be as rigidly fixed in the mouth as natural teeth are. There is always some degree of looseness. When we asked people with dentures whether they felt their dentures were loose, we were asking about whether they felt that the dentures were looser than they would have liked.

Full denture wearers were asked whether they felt that either their upper denture or lower denture was loose. They were also asked whether either the upper or lower denture had hurt their mouth at all during the last six months.

TABLE 10.4

The proportion of totally dentured persons who wear their dentures at least part of the day time who have difficulty with dentures feeling too loose, or hurting

Totally dentured persons who wear their dentures at least part of the day time	Proportion who feel dentures are loose		Proportion whose dentures have hurt mouth in the last 6 months	
	Upper jaw	Lower jaw	Upper jaw	Lower jaw
Wears dentures all day	13.2%	31.3%	9.8%	34.2%
Wears dentures part of day	18.4%	30.0%	16.3%	43.4%
All	13.7%	33.0%	10.4%	35.1%

Again we see that it is the lower jaw denture which causes the most trouble. A third of full denture wearers felt that their lower denture was loose. Just over a third said that their lower denture had hurt their mouth during the last six months. Those who only wear their dentures part of the day time were somewhat worse off in these respects than those who wear their dentures all day.

10.2 The wearing of dentures by partially dentured persons

The potential number of totally dentured persons at any given moment in time depends on the number of people with no natural teeth. The potential number of partially dentured persons, at any given moment in time, is much more difficult to assess, as has already been discussed in section 8.

It is not possible, therefore, to say categorically how many people with natural teeth and no dentures in fact need dentures. Consequently we confine ourselves to examining those people with some natural teeth who have at some time had a denture. We establish first whether such people wear their dentures.

There were 633 people among those who were interviewed and had some natural teeth, who said that they had had dentures at some time. There were 26 people who had both upper and lower dentures but never now wear either, 5 who had both but never wear the upper denture, 48 who had both but never wear the lower denture. There were 40 people who had an upper denture only but never wear it, and 11 who had a lower denture only but never wear it. Thus 20.5% of the people with some natural teeth who have had a denture never now wear all or part of it.

In addition, 46 people only wear all or part of their denture for part of the daytime, thus 27.8% of those who have had a denture to help complement their natural teeth, do not in fact wear their denture all day.

TABLE 10.5
The wearing of dentures by partially dentured persons

Whether wears dentures	Adults with some natural teeth who have ever had dentures	
	No.	%
Has had upper and lower denture never wears either	26	4.1
Has had upper and lower denture never wears upper denture but wears lower denture	5	0.8
Has had upper and lower denture never wears lower denture but wears upper denture	48	7.6
Has had upper denture only and never wears it	40	6.3
Has had lower denture only and never wears it	11	1.7
Wears whole of dentures but only part of the day	46	7.3
Wears whole of dentures all day	457	72.2
	633	100.0

If we compare the results in Table 10.5 with those in Table 10.1 we shall see that of those who have dentures the partially dentured persons have a lower rate of acceptance, as measured by wearing dentures all day. The proportion who wear their dentures for only part of the day does not differ very much, 8.7% of those who have a full set of dentures and 7.3% of those who have dentures in conjunction with natural teeth. The big difference comes in the proportion who never wear all or part of their dentures, 7.1% of those who have a full set of dentures but 20.5% of those who have dentures in conjunction with natural teeth.

We have already commented on the difficulty of assessing how many of the people with natural teeth and no dentures in fact need dentures. On a basis of providing dentures for all people with missing front teeth or a gap of three back teeth in a row, excluding wisdom teeth, the number of partial dentures would be increased by half. Obviously there is a much higher unmet need for dentures to be used in conjunction with natural teeth than there is for full dentures.

As with totally dentured persons there was little regional variation among partially dentured persons in the proportion of people who wore their dentures. There was very little variation with age and less than ten per cent variation with household social class. Table 10.6 gives the results.

The main reason for partially dentured persons not wearing their dentures all day was because they hurt, other reasons given were that it was difficult to eat with them, the food went under the plate and that food did not taste the same. Some people mentioned the difficulty of wear and tear on the adjacent supporting teeth. The main reason for wearing them some of the time was for appearance sake.

Among those who never wear their dentures, again the reason that they hurt occurred most often. The other major reason given was the dentures did not fit properly, either in the spaces, or were too loose, or too tight. Some partially dentured persons found that wearing the dentures made them feel sick. Similar comments were made about the difficulties with food as were made by those who wear their dentures some of the time only.

TABLE 10.6
The wearing of dentures by partially dentured persons,
for household social class

Whether wears partial dentures	Adults with some natural teeth who have ever had dentures			
	Household Social Class			
	I, II and III non-manual	III manual	IV and V	All*
Never wears	18.8	21.5	24.4	20.5
Wears part of the day	5.0	6.9	7.8	7.3
Wears all day	76.2	71.6	67.8	72.2
	100.0	100.0	100.0	100.0
Base	240	247	115	633

*This total includes the housewife, student, unemployed and unclassifiable categories, which are not included elsewhere in the table.

Among those who wear their dentures all day, 79.9% were very satisfied with them, 8.5% said they were not very satisfied but did not intend to see the dentist about it, and 11.6% said they did plan to see the dentist about their partial dentures. Among those partially dentured persons who wear their dentures part of the daytime only, 64.4% said they were very satisfied with their dentures, 23.8% said they were not satisfied but did not propose to do anything about it and 11.8% said they did plan to see the dentist. Among those who never wear their dentures 41.5% said they were very satisfied with them, 15.4% said they thought they would see the dentist about them, but 46.3% said that, although they were not satisfied with them, they did not think they would do anything about it.

During the interview partially dentured persons who wore their dentures at least part of the time, were asked whether they had any difficulty with them when they were laughing, yawning, talking, chewing meat or biting into a raw apple. The results are shown separately for those who wear their dentures all day and for those who wear them only part of the day.

TABLE 10.7
The proportion of partially dentured persons who wear their dentures at least part of the day who have difficulties with them in selected everyday situations

Partially dentured persons who wear their dentures at least part of the daytime	Proportion who have difficulty with their dentures when:				
	Laughing	Yawning	Talking	Chewing meat	Biting into a raw apple
Wears dentures all day	6.5%	4.4%	7.8%	11.8%	26.2%
Wears dentures part of day	4.3%	0.0%	15.2%	50.0%	36.9%
All	6.4%	4.0%	8.2%	15.2%	27.2%

We compare not only the difficulties found in these situations but also whether partially dentured persons or totally dentured persons had more trouble. With respect to totally dentured persons there was a consistently higher proportion of people having difficulty in these situations among those who only wear their dentures part of the day time. For partially dentured persons the position was somewhat different. Laughing and yawning were not a greater source of difficulty for people who only wear their dentures part of the time although talking, chewing meat and biting into a raw apple caused a higher proportion of difficulty among those who do not wear their dentures all the time.

For partially dentured persons who wear their dentures all day difficulties were experienced about equally by the comparable group of totally dentured persons except that biting into a raw apple did not prove anywhere near so difficult for partially dentured persons.

Thus the two points of particular interest are that those partially dentured persons who wear their dentures part but not all of the day have particular difficulty with talking and with chewing meat. This suggests that there is more incompatibility between natural teeth and false teeth when dentures are loose or ill fitting and that talking and chewing meat are two situations in which such difficulties are noticed. Secondly biting into a raw apple is much less difficult for partially dentured persons than totally dentured persons. This is probably due to the fact that the former usually have some front teeth that will not be dislodged through the pressure of biting.

Partially dentured persons were asked whether their dentures had hurt in the last six months, and whether their dentures were loose or not. These questions were asked separately for upper and lower jaws, for many partially dentured persons had no plate for the lower jaw.

TABLE 10.8
The proportion of partially dentured persons who wear their dentures part of the day, who have difficulty with dentures hurting

Whether dentures have hurt in last 6 months	Partially dentured persons who wear their dentures at least part of the day time					
	Wears them all day		Wears them part of day		All	
	Upper jaw	Lower jaw	Upper jaw	Lower jaw	Upper jaw	Lower jaw
Have hurt	13.4 % 82.5	8.3 % 29.1	17.4 % 76.1	18.6 % 82.4	10.9 % 79.1	21.7 % 76.3
Have not hurt	14.3 % 85.7	22.2 % 77.8	18.6 % 81.4	21.7 % 78.3	14.7 % 85.3	22.2 % 77.8
No plate	3.7 % 100.0	62.6 % 100.0	6.5 % 100.0	50.0 % 100.0	4.0 % 100.0	62.4 % 100.0
Base	457	457	46	46	503	503

Tables 10.8 and 10.9 show that in terms of whether the dentures have hurt recently or whether they are loose, those who do not wear their dentures all day were not having very much more difficulty than those who wore them all day. In fact in terms of the looseness of lower teeth the non-wearers were better off than those who wore them. This is because for the non-wearers looseness is not the problem. If the dentures are not worn then the remaining teeth move, tending to close the gaps. In such circumstances the dentures will not fit into the gaps and the person will not be able to wear them.

On the whole, lower dentures hurt more than upper dentures. But lower dentures, even among those who wear them, were not felt to be loose any more

often than upper dentures. This reflects the fact that lower dentures for partially dentured persons very rarely consist of a full lower plate and consequently there are some natural teeth left which help to keep the lower denture in place.

TABLE 10.9

The proportion of partially dentured persons who wear their dentures at least part of the day, who have difficulty with dentures feeling too loose

Whether dentures are loose	Partially dentured persons who wear their dentures at least part of the day											
	Wears them all day		Wears them part of day		All							
	Upper jaw	Lower jaw	Upper jaw	Lower jaw	Upper jaw	Lower jaw						
	%	%	%	%	%	%						
Dentures are loose	23.0	23.8	8.4	22.3	21.7	23.2	2.8	4.3	22.9	23.8	7.5	19.6
Dentures are not loose	73.3	76.2	29.0	77.7	71.8	76.8	47.8	95.7	73.1	76.2	31.1	80.4
No plate	3.7	100.0	62.6	100.0	6.5	100.0	50.0	100.0	4.0	100.0	61.4	100.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Base	457	457	46	46	503	503						

We examined the type of denture, in terms of which jaws were involved and whether the denture replaced all teeth in that jaw or only some, and also by whether or not the dentures were worn. The results were very interesting and are shown in Table 10.10.

TABLE 10.10

The wearing of dentures by partially dentured persons in relation to the type of denture

Whether wears dentures	Partially dentured persons				
	Full upper no lower	Partial upper no lower	Full upper partial lower	Partial upper partial lower	No upper partial lower
	%	%	%	%	%
Has upper, never wears it	0.9	16.2	—	—	36.7
Has lower, never wears it	—	—	—	—	—
Never wears both upper and lower	—	—	3.7	15.3	—
Has both never wears upper	—	—	—	3.5	—
Has both never wears lower	—	—	25.9	13.9	—
Wears whole of dentures, but not all day	4.6	7.5	5.6	9.0	89.0
Wears whole of dentures all day	94.5	76.3	64.8	58.3	33.3
	100.0	100.0	100.0	100.0	100.0
Base	109	240	308	144	30

Whether dentures are worn by partially dentured persons is obviously very much affected by their type. The survey results show very clearly that upper dentures are more acceptable to the person than lower dentures, and that a full denture in the upper jaw is more acceptable than a partial denture for that jaw.

Among those people whose denture consisted of a full upper denture only, 94.5% said they wear the denture all day. Of those who had a partial upper denture only, 76.3% said it was worn all day. For those who had a partial lower denture as well as a full upper denture, 64.8% wore their dentures all day, but 25.9% never wear the lower denture. Of those with partial upper and lower dentures 58.3% wore them all day. Again the biggest contribution to never wearing them came from the lower denture (29.2%). For those people who had

no upper denture but a partial lower denture 53.3% wore them all day. Among this group 36.7% never wear the partial lower denture.

There is obviously a difference between what is deemed dentally necessary in the field of dentures in conjunction with natural teeth and what is found to be personally necessary and acceptable to those for whom the dentures are provided.

PART V—MISCELLANEOUS

11.0 OTHER FACTORS INFLUENCING DENTAL HEALTH TODAY

11.1 Treatment under the School Dental Service

In section 3, which dealt with background information for the survey, we discussed briefly the structure and policies of the School Dental Service. This service has considerable potential for influencing dental attitudes and behaviour. In many cases it may provide the first contact that a child has with a dentist. However, under-staffing since its inception in 1907 has limited the scope of its activities, and a large part of the treatment it has provided has been restricted to the relief of pain. It is a tragic situation that such shortage has resulted in many children, who are not very dentally aware, being familiarised with a system of dentistry based on the relief of pain rather than one based on conservation.

We were interested to see how many people in the sample had ever been examined by a school dentist, and how many had subsequently received treatment. The proportions for England and Wales are shown in Table 11.1 which includes adults of all ages, with and without natural teeth.

TABLE 11.1
Proportion of all ages, with or without natural teeth, treated through
the School Dental Service

Whether treated by the school dentist	Adults of all ages, with or without natural teeth, in England and Wales
	%
Never examined	32.2
Examined but not treated	25.5
Examined and treated	42.3
	100.0
Base	2,847

Thus 67.8% of the total interviewed sample had at some time been examined by a school dentist; 32.2% had not. The proportion who had received treatment was 42.3%. These results, however, include people of all ages and therefore span the whole period of the School Dental Service since it began in 1907. A few people will in fact have left school before the service began. The group most relevant to dental behaviour today is the age group 16-34 years. Such people will have been affected by the last twenty years of the School Dental Service and will also have had the alternative of obtaining treatment under the general dental service. Although neither service has had all the resources it required, nevertheless some service has been available.

In Table 11.2 the proportion receiving examination or treatment is shown for those aged 16-34; again the table refers to people with and without natural teeth. The figures are shown regionally as well as for England and Wales.

TABLE 11.2
Proportion of adults aged 16-34, with or without natural teeth,
treated through the School Dental Service

Whether treated by the School Dentist	Adults aged 16-34; with or without natural teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	%	%	%	%	%
	10.0	19.0	14.6	16.4	14.5
Never examined	23.9	25.6	27.4	23.5	24.8
Examined but not treated	66.1	55.4	58.0	60.1	60.7
Examined and treated	100.0	100.0	100.0	100.0	100.0
Base	259	121	205	311	896

For England and Wales as a whole, a total of 85.5% of those in the age group 16-34 had been examined by a school dentist, 14.5% had not. The proportion who had received treatment was 60.7%. The results were fairly similar in each of the regions, the North achieving a somewhat higher level of examination and treatment.

Thus over half of the people in the age group 16-34 had received some treatment through the School Dental Service. Using the survey examination data we can compare, for this age group, the present state of dental health of those who were treated under the school dental system and those who were not. Although much dental treatment will have been carried out subsequent to leaving school any major differences, especially if there is any variation in extractions, are likely to still be apparent in this age group. It is only possible to include in this examination people with some natural teeth who were interviewed and examined.

During the last twenty years there have been, in addition to the provision of the School Dental Service, the general dental services of the National Health Service, and also private services if desired. Initially, to show the interrelationship of the School Dental Service with non-school sources we show in Table 11.3 the proportion of people treated under the school system according to whether and how much they used non-school dentists during childhood. In the interview childhood was defined as under 16 years of age.

TABLE 11.3
Relationship between childhood attendance in the General Dental Service
and treatment through the School Dental Service

Whether treated by the school dentist	Adults aged 16-34, with some natural teeth				
	Childhood pattern of dental attendance, in the General Dental Service				
	Regular check-up	Occasional check-up	Only when have trouble with teeth	Not at all	Total
	%	%	%	%	%
Never examined	23.7	17.1	12.5	10.4	14.3
Examined but not treated	36.4	30.0	29.2	14.3	25.4
Examined and treated	40.9	52.9	58.2	75.3	59.9
	100.0	100.0	100.0	100.0	100.0
Base	205	71	225	312	813

Among adults who, during their childhood, attended a non-school dentist for a regular check-up, 40.9% also received some treatment through the school service. For those who, in childhood, went to a non-school dentist for an occasional check-up 52.9% had some treatment through the school system. For those who, in childhood, went to a non-school dentist but only when they had trouble with their teeth, 58.2% also received some treatment through the school service. Among those who did not go to a non-school dentist during childhood, 75.3% obtained treatment through the school service, 14.3% were examined but not treated and 10.4% were not examined. Over a third of those at present aged 16-34, with some natural teeth, relied entirely on the school service during childhood. About half the people who had some treatment through the school dentist also had some treatment elsewhere during their childhood, for half the people treated by the school dentist this was the only treatment source they had during childhood.

The overall level of treatment through the School Dental Service for those aged 16-34 with some natural teeth was 59.9%. In Table 11.4 we show the average number of teeth found to be in the different tooth conditions, in relation to whether any treatment was received through the School Dental Service.

From the table it can be seen that the people who were examined by the school dentist but not treated, have on average two more teeth that are sound and untreated. This suggests that the school service was on the whole, selecting for treatment people with more disease. The people who were 'not examined' by a school dentist, appear on average to be in a fairly similar state, with regard to disease, as those who were treated. The main difference here is that on average they have more teeth filled than those who were treated through the school service and fewer missing. With respect to missing teeth, those who were treated through the School Dental Service have on average 7 teeth missing, those who were not treated by the school dentist have on average only 5 teeth missing.

TABLE 11.4
The condition of the teeth in relation to whether treatment was received through the School Dental Service, for adults aged 16-34 with some natural teeth

Whether treated by the school dentist	Average number of teeth in each condition for adults aged 16-34 with some natural teeth, in England and Wales						
	Sound and untreated	Crowned or bridged	Filled, otherwise sound	Filled and decayed	Decayed not previously treated but restorable	Not restorable	Missing
Never examined	14.9	0.1	9.7	0.8	1.0	0.2	5.1
Examined but not treated	16.4	—	8.3	0.6	1.3	0.5	5.1
Examined and treated	14.2	0.1	8.1	0.7	1.2	0.4	7.3
All	14.9	0.1	8.4	0.7	1.2	0.3	6.4

Table 11.5 gives the comparable results on a regional basis, for we were interested to see whether this difference in the average number of missing teeth for people treated by the school dentist existed throughout the country.

This regional examination immediately draws attention again to the difference between the regions of the number of sound and untreated teeth and the number of filled (otherwise sound) teeth (see section 6.4). However the average

number of teeth missing, regardless of the School Dental Service, is between 6 and 7 in all regions. Taking the School Dental Service into account there is a consistent difference in each region, of an average of two more teeth missing among those who received treatment from the school dentist than among those who did not.

TABLE 11.5

The condition of the teeth in relation to whether treatment was received through the School Dental Service, by region, for adults aged 16-34, with some natural teeth

Whether treated by the school dentist	Average number of teeth in each condition for adults aged 16-34 with some natural teeth						
	Sound and untreated	Crowned or bridged	Filled, otherwise sound	Filled and decayed	Decayed not previously treated but restorable	Not restorable	Missing
The North							
Never examined	17.1	—	7.6	1.2	1.0	—	5.1
Examined but not treated	17.0	—	6.9	1.0	1.1	—	5.4
Examined and treated	15.4	0.1	6.5	0.9	1.8	0.3	7.0
All	15.9	0.1	6.7	0.9	1.4	0.3	6.5
Wales and the South West							
Never examined	13.4	—	9.7	0.6	1.6	0.8	5.9
Examined but not treated	16.5	0.1	7.9	0.7	1.5	0.3	5.0
Examined and treated	13.8	0.1	7.5	0.7	1.5	0.6	7.8
All	14.5	0.1	8.0	0.7	1.5	0.5	6.7
Midlands and East Anglia							
Never examined	15.9	0.1	8.5	0.8	1.1	0.1	5.5
Examined but not treated	16.5	—	7.5	0.5	1.8	0.3	5.4
Examined and treated	15.0	0.1	6.8	0.6	1.2	0.6	7.7
All	15.5	—	7.3	0.6	1.3	0.5	6.8
London and the South East							
Never examined	14.1	0.1	11.5	0.6	0.7	—	5.0
Examined but not treated	15.7	—	10.2	0.5	0.8	—	4.5
Examined and treated	13.0	0.1	10.3	0.6	0.6	0.3	7.1
All	13.8	0.1	10.5	0.6	0.7	0.2	6.1

We have seen from Table 11.3 that some people obtained treatment only from the School Dental Service during their childhood, while some obtained treatment from outside the school system, others received treatment under both systems. We therefore examine, from Table 11.6 the average number of teeth in each condition according to the combinations of sources of dental treatment during childhood.

In each non-school dental attendance group the average number of missing teeth is higher for people who were also treated by a school dentist. Among the regular childhood attenders the average number of missing teeth is 4-5 for those who were not treated by the school dentist, and 5-6 for those who were.

Similarly, for those who had attended a non-school dentist when having trouble with their teeth, here the average number missing was 5-7 for those who had not been treated by the school dentist and 7-8 for those who had.

Among those people whose treatment, if any, was obtained through the school dentist, there were on average 7 missing teeth; among those who had not had treatment either through the school dentist or elsewhere, there were on average 4-5 missing teeth.

TABLE 11.6

The condition of the teeth in relation to whether treatment was received through the School Dental Service and/or through the General Dental Services as a child, for adults aged 16-34 with some natural teeth

Whether treated by the school dentist	Average number of teeth in each condition for adults aged 16-34 with some natural teeth						
	Sound and untreated	Crowned or bridged	Filled, otherwise Sound	Filled and decayed	Decayed not previously treated but restorable	Not restorable	Missing
	Went to dentist, outside school service, for regular check-up during childhood						
Never examined	13.8	0.1	12.8	1.0	0.5	—	4.6
Examined but not treated	12.4	—	10.0	0.8	0.5	—	4.3
Examined and treated	12.9	0.1	10.0	0.8	0.6	0.2	6.4
All	14.4	0.1	10.8	0.8	0.6	0.1	5.2
	Went to dentist, outside school service, when had trouble with teeth during childhood						
Never examined	13.5	—	9.2	0.7	1.5	0.2	6.9
Examined but not treated	10.1	0.1	7.6	0.5	1.7	0.4	5.6
Examined and treated	14.2	0.1	6.9	0.4	1.5	0.7	7.9
All	14.6	0.1	7.4	0.5	1.7	0.6	7.1
	Did not go to dentist outside school service during childhood						
Never examined	16.2	0.1	8.2	0.4	0.8	0.1	5.2
Examined but not treated	18.7	—	5.4	0.5	3.0	0.5	4.9
Examined and treated	14.7	0.1	7.6	0.7	1.2	0.3	7.4
All	15.6	—	7.1	0.6	1.4	0.4	6.9

Thus, even allowing for alternative sources of dental treatment during childhood, there was still a consistently higher average number of teeth missing among people who had received treatment through the School Dental Service.

These results are consistent with the policies of the School Dental Service as outlined in Section 3. In the face of chronic understaffing and an overwhelming number of children to be treated, their major concern has been 'relief of pain and prevention of sepsis'. For many children this has meant extraction rather than conservation. One situation in which this policy has been directed is in relation to the '6-year molars', see Section 6.7.

We have already shown that adults aged 16-34 with some natural teeth who were treated by the school dentist have on average 2 more missing teeth than others in their age group. We now examine whether this difference is related to particular teeth.

In Table 11.7 we show, for each individual tooth position in both jaws, the proportion of teeth that are missing among adults aged 16-34 who still have some natural teeth. The results are shown in relation to whether treatment was received through the School Dental Service.

For every tooth position except for third molars (wisdom teeth) the proportion of teeth found to be missing was highest for people who had been treated by a school dentist. Missing wisdom teeth include those which have not yet erupted as well as those which have been extracted. Since these teeth do not usually erupt at all till late teens and twenties they really do not enter into school dental treatment.

We look in particular at the 'sixes'. Extractions of 'sixes' is, in general, greater in the lower jaw than the upper jaw, but for those who received treatment

TABLE 11.7

Proportion of each tooth type that is missing in relation to whether treatment was received through the School Dental Service for adults aged 16-34 with some natural teeth

Whether treated by the school dentist	Adults aged 16-34 with some natural teeth, showing the proportion of each tooth type that was missing															
	Left								Right							
	Molars				Pre-molars				Canine				Incisors			
	4	7	6	5	4	7	6	5	4	7	6	5	4	7	6	5
Upper jaw																
Never examined	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Examined but not treated	41.3	42.6	40.7	44.3	44.3	5.4	5.9	5.5	5.4	5.4	5.9	5.5	5.4	5.9	5.5	5.4
Examined and treated	49.3	52.7	57.4	57.6	59.3	8.5	5.9	6.4	4.4	3.9	7.4	12.7	18.3	26.0	31.9	32.8
Lower jaw																
Never examined	49.6	21.0	47.1	13.4	2.9	—	—	—	0.8	—	—	—	0.8	4.2	14.3	48.9
Examined but not treated	47.0	16.2	16.8	10.8	1.9	—	1.5	1.0	—	—	1.0	0.3	3.9	11.3	42.6	44.9
Examined and treated	49.7	30.7	54.6	24.9	8.3	1.9	2.1	2.3	1.9	1.9	1.9	2.1	8.5	20.9	52.6	31.8

from the school dentist the proportion of missing 'sixes' is high in both upper and lower jaws (45.0% upper left, 43.1% upper right, 54.6% lower left, 52.8% lower right). This was a much higher level of extraction than is evident among those who were examined but not treated (27.4% upper left, 26.0% upper right, 36.8% lower left and 42.6% lower right).

Those who were neither examined nor treated, by the school dentist, had a level of extraction of 'sixes' in between these two extremes (30.2% upper left, 29.4% upper right, 47.1% lower left and 48.8% lower right).

Thus the results, both in terms of the average number of missing teeth, and the proportion of each tooth type that is missing, indicate, to some extent, the effect of the policies pursued. These policies will not have been entirely confined to the School Dental Service of course, but following the repeated recommendations in publications relating to school dentistry there is a considerable likelihood of it being more concentrated there than in the general dental service.

The School Dental Service is obviously of considerable importance for the maintenance of dental health among children. About a third of the people in the age group 16-34 relied solely on the school service before the age of sixteen. It seems, therefore, unfortunate that lack of resources limited the type of treatment this service could provide. Children whose dental experience consisted of treatment for the relief of pain are not likely to expect or seek conservative treatment in later life.

11.2 Dental attendance pattern for adults with some natural teeth

We have already seen that dental attendance pattern is a very important factor in determining dental health. This section deals in detail with the distribution of the different attendance patterns for different groups of people.

Firstly we examine, for the two major age groups, whether the dental attendance pattern varies in different regions.

Among the older age group there is little regional variation, although in London and the South East a slightly higher proportion of people attend for a regular check up and fewer to go the dentist only when they are having trouble

TABLE 11.8
Dental attendance pattern by region and age

Dental attendance pattern	Adults aged 16-34 with some natural teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
Regular check-up	% 37.7	% 43.4	% 43.9	% 51.4	% 45.3
Occasional check-up	14.8	17.9	1.2	13.8	15.4
Only when having trouble	47.5	38.7	45.9	34.8	41.3
	100.0	100.0	100.0	100.0	100.0
Base	226	107	185	297	416

Dental attendance pattern	Adults aged 35 or more with some natural teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
Regular check-up	% 38.2	% 50.2	% 33.0	% 50.4	% 45.0
Occasional check-up	4.4	15.1	8.6	9.4	8.8
Only when having trouble	59.0	54.7	58.4	51.8	55.2
	100.0	100.0	100.0	100.0	100.0
Base	230	106	157	375	578

TABLE 11.9
Length of time since last visit, by dental attendance pattern and age

Length of time since last went to the dentist	England and Wales			
	Regular Check-up	Occasional check-up	Only when have trouble	All
	Adults aged 16-34 with some natural teeth			
Under treatment now	% 6.8	% 5.7	% 2.4	% 4.9
Less than 6 months	61.8	24.5	12.3	36.4
6 months less than 1 year	27.7	33.0	19.3	24.9
1 year less than 2	3.1	19.8	16.9	11.0
2 years less than 3	0.3	12.3	16.3	8.5
3 years less than 5	0.3	3.8	16.3	7.3
5 years less than 10	—	0.9	12.0	5.1
10 years or more	—	—	4.5	1.9
	100.0	100.0	100.0	100.0
Base	364	106	332	802

Length of time since last went to the dentist	Adults aged 35, or more, with some natural teeth			
	%	%	%	%
Under treatment now	7.3	10.4	2.7	5.0
Less than 6 months	59.3	24.7	12.0	29.8
6 months less than 1 year	27.4	31.1	11.8	19.0
1 year less than 2	4.1	20.8	13.0	10.5
2 years less than 3	1.6	7.8	12.0	7.9
3 years less than 5	0.3	5.2	16.1	9.5
5 years less than 10	—	—	13.7	7.5
10 years or more	—	—	18.7	10.8
	100.0	100.0	100.0	100.0
Base	316	77	485	578

with their teeth. Among the younger age group, however, there is a larger regional variation. In London and the South East 51.4% of those aged 16-34 attend the dentist for a regular check-up. In the North 37.7% of the same age group attend for a regular check-up. Conversely, a higher proportion of people in the North attend only when they are having trouble with their teeth, 47.5%; this compares with 34.8% in London and the South East.

We look next at the length of time that has elapsed since the person last went to the dentist, according to what they consider to be their general attendance pattern.

Of the people who said that they went to the dentist for a regular check-up, 96.3% of those aged 16-34 and 93.9% of those aged 35 or more said they had been to the dentist within the previous year (12 months). Among those who only go to the dentist when they are having trouble with their teeth the comparable figures were 34.0% among those aged 16-34 and 26.5% among those who were aged 35 or more. The range of time for those who only go when they have trouble was greater and the distribution of people much more even within the range. For those who go for a regular check-up the distribution was very concentrated. It would thus appear that there was good agreement between the stated dental attendance pattern and the information given about the last visit to the dentist.

Since we have already seen in Table 6.6 that there is a regional variation in the type of dental attendance among those aged 16-34, we examined the two extreme dental attendance types in relation to the last visit to the dentist for each region separately. We give the summarised results in Table 11.10.

TABLE 11.10
Attendance within the last year, by region and attendance pattern

Region	Adults aged 16-34 with some natural teeth	
	Proportion who had been to the dentist within the previous year	
	Attend for a regular check-up	Attend only when have trouble
The North	96.4%	38.4%
Wales and the South West	97.8%	36.7%
Midlands and East Anglia	94.0%	26.2%
London and the South East	97.3%	34.9%
England and Wales	96.3%	34.0%

The results show that although the proportion of people in each dental attendance group varied regionally this was not caused by any difference in interpretation of attendance patterns but by a real difference in behaviour.

11.3 The perfect mouth

Among those who were examined there were 151 adults with all their natural teeth present, except perhaps for third molars (wisdom teeth). Of these 6 were found to have one or more teeth that were not restorable. Consequently, when treatment was sought this would lead to extractions so these 6 people could never have a fully restored mouth. They were therefore discarded.

This left 145 persons with potentially fully restorable mouths. Of these 69 had no active decay but some teeth previously restored. A further 69 had some active decay, but with treatment they also could be fully restored. This left seven people who had no active decay and no previous restorations, and who therefore had a perfect set of teeth as far as decay was concerned. This means that only 3 per thousand of the adult population have a full set of natural teeth without any visible signs of present or past decay.

These seven included five men and two women. Four of the seven had all 32 teeth, one had only some of his wisdom teeth and two had no wisdom teeth. None of the seven appeared to take particular care of their teeth, three had never been to a dentist. When the seven were examined with regard to gum disease only two were completely free from disease, although none had very extensive gum trouble.

Of the seven with decay-free teeth, four were Indians or Pakistanis, and one was a Nigerian; all these five were born overseas. Only two of the seven were English. Of the two who had neither decay nor gum disease one was an Indian and one was English. Bearing in mind that less than one per cent* of the population of England and Wales was born in India, Pakistan and Nigeria it is clear that as regards the dental condition of their mouths these immigrant groups are exceptionally well off compared with the native born population.

11.4 Private treatment

One of the surprising findings in the two-town study of Darlington and Salisbury was the proportion who obtained their treatment privately†, 11% in Salisbury and 14% in Darlington. In this survey we asked all those people who had obtained some dental treatment since 1948 whether their last course of treatment had been obtained under the National Health Service or whether it had been private. We asked this question in relation to the last course of treatment so that we could examine the kind of treatment that had been received privately.

Of those who had no natural teeth but had been to the dentist in the last twenty years 9.1% said that their last course of treatment had been wholly private. Of those who had some natural teeth and had had dental treatment in the last twenty years, 10.8% said that their last course of treatment had been wholly private.

It is generally believed that people choose private treatment because they believe that they obtain better value, either in terms of treatment or service. Certainly the people in the two-town study felt this. What sort of dental treatment is it that is thought to be an improvement on that which can be obtained through the National Health Service?

Among the 81 totally dentured persons whose last treatment was private, 46 had replacement dentures, 19 had final extractions and the provision of dentures, 10 had repairs carried out to existing dentures, 5 had roots or wisdom teeth extracted and one had two gold teeth added to the full denture.

There were 198 people with some natural teeth whose last course of treatment had been private, 128 were people with natural teeth only, and 70 had both natural teeth and dentures.

*1966 Census.

†Demand and Need for Dental Care p. 41.

Among the 128 who had only natural teeth there were 82 people for whom the last course of treatment, which was obtained privately, involved just the extraction of a single tooth. A further 13 people had two teeth extracted but no conservative treatment, and a further 3 had more than two teeth extracted but again with no conservative treatment. Thus 98 people had private treatment which consisted of extractions only. Of the rest 24 had treatments which combined fillings, cleaning the teeth and possibly some extractions. There were 4 people whose private treatment included the fitting of crowns and two which involved considerable treatment for gum disease.

For partially dentured persons the pattern of treatment is much more complicated as it may or may not include treatment for dentures. Among the 70 partially dentured persons whose last course of treatment was wholly private 31 had extractions only but nothing involving dentures. There were 11 people who had conservative treatment (fillings, cleaning the teeth and possibly some extractions) but no denture treatment, 24 who had a combination of conservative treatment and denture treatment and 4 who had denture treatment only.

There were thus 170 people among those with some natural teeth whose private treatment did not involve denture work. Of these 129 had extractions only with no conservative work involved.

Thus a large proportion of the people who had private treatment were not, as might have been expected, attempting to obtain for themselves treatment beyond the scope of the National Health Service. The treatment which many of them obtained was, in fact, akin to emergency treatment for the relief of pain.

The high proportion of this 'emergency' treatment among those who obtained their last treatment privately goes some way to explain the existence of the National Health Service provision for emergency treatment of casual patients*. However, such a provision, albeit to cover an area of treatment which would doubtless otherwise have merely been absorbed completely into private treatment, has fostered a type of dental attitude and behaviour which results in poor dental health and fairly rapid progress towards total tooth loss.

We pursued this question of who obtained what kind of private treatment in relation to all those people in our sample whose private treatment had not involved dentures at all, that is 170 people. We examined them in terms of the household social class classification used in the survey. Only 37.6% of those who had private treatment for their natural teeth came from households of social class I, II or III non-manual. This is somewhat contrary to general expectations of the groups of social classes in which one would find the type of person who would obtain private treatment. However, if one considers those people whose private treatment had involved some indication of conservative dentistry as opposed to extraction only, then 75.6% came from households of social class I, II or III non-manual. Conversely, of those whose private treatment had involved no conservative treatment, only 24.8% were from households of social class I, II or III non-manual.

It is thus quite clear that there are two types of private treatment for natural teeth. Treatment involving conservative work is concentrated among the social classes where such treatment might be expected. The existence of private treatment for extraction alone accounts for the curiously high level of private treatment among the lower social classes.

*See section 11.5.

We have been concerned in these analyses with the people who obtain private treatment. We have examined all those whose last course of treatment was private and this last course of treatment could have taken place at any time in the last twenty years. Obviously the kind of people who have private treatment for the relief of pain do not attend as often as those who obtain private conservative treatment. These figures cannot therefore be used to estimate the proportion of treatment that is private. Those who attend regularly will go to the dentists many times more often than those who only attend for an occasional extraction. Consequently, although this data demonstrates the different types of treatment obtained privately by different groups of people, it must on no account be used to estimate the proportion of all treatment that is private.

11.5 The last course of treatment, for adults aged 16-34 with some natural teeth.

We examine in detail the treatment that was received in the last course of treatment by adults aged 16-34 with some natural teeth. This is a very important age group since the future level of total tooth loss depends on the progress of their dental health. Also, of course, they have had the opportunity of National Health Service dentistry for a large proportion of their lives.

It is not possible to present the information about the last course of treatment in a meaningful way without first making clear the system under which dentistry is obtained. The vast majority of this group (over 90%) obtained their last course of dental treatment through the National Health Service.

How does a person become a patient for dental treatment under the National Health Service? The following explanation is quoted from the 'Handbook for General Dental Practitioners'*.

... "Anyone may apply for dental treatment to any dentist whose name is on a dental list and the practitioner has the right to accept or refuse him for treatment under the Service. A course of treatment is normally completed when the practitioner has carried out all the treatment necessary for dental fitness that the patient is willing to receive. When further treatment becomes necessary it is open to the patient to apply for treatment to his previous practitioner—who may refuse if he wishes—or to any other practitioner.

A patient does not register with a dental practitioner as with a medical practitioner. There is, therefore, no dental card corresponding to the medical card; nor is it necessary for the patient to produce a doctor's certificate before he is eligible for dental treatment

... Treatment

The practitioner is required to employ a proper degree of skill and attention. This does not mean a specialist degree of skill but the reasonable skill and care normally expected of a general dental practitioner in treating his patient.

Except where certain limited treatment is provided under the special procedure for casual patients the practitioner is required to provide and complete satisfactorily all the treatment necessary to secure dental fitness which the patient is willing to undergo

... Treatment of casual patients

Practitioners may accept casual patients for the following items of treatment only without incurring the obligation to carry out all necessary treatment.

- (a) Denture repairs costing not less than
- (b) The following items of emergency treatment†
 - (i) not more than two extractions

*Handbook for General Dental Practitioners. National Health Service, Ministry of Health Revised to 1st March, 1966.

†Emergency treatment is defined earlier as "any treatment immediately required for the relief of pain or other urgent symptoms."

- (ii) the administration of a general anaesthetic
- (iii) the dressing of teeth
- (iv) arrest of abnormal haemorrhage
- (v) a single radiological examination involving one intra-oral or extra-oral film, in connection with treatment under (i) or (iii) above
- (vi) Domiciliary visits in connection with any of items (i)–(v) above."

Thus National Health Service dentistry is not based on a system of patients registering with a particular dentist. The responsibility of a dentist to a patient, and vice-versa, technically lasts only for the duration of one course of treatment. The system is thus completely flexible. Despite this flexibility there are special instructions for the treatment of what are called 'casual patients'. Who are these casual patients? How are they defined? At what point does a dentist determine whether the patient is 'casual' and what are his criteria?

We have already seen in Table 6.7 that among people aged 16–34 who still have some natural teeth but who only go to the dentist when they are having trouble with their teeth, a very high proportion (approximately 40%) of those outside London and the South East had no teeth at all which had sound fillings. This suggests that such people may well have had nothing but 'emergency treatment' all their lives.

If the School Dental Service cannot provide full conservative treatment and the treatment of casual patients under the General Dental Service allows essential work to be carried out for the relief of pain, without responsibility for the rest of the mouth, how is this group of people ever going to be encouraged to change its dental attendance habits? Whose responsibility is it to introduce them to conservative dentistry?

With this as background, we examine the type of treatment obtained in the last course of treatment for those aged 16–34 who still have some natural teeth.

The combination of items that made up different courses of treatment were very varied but we summarised the main items in the following way so that we could more realistically examine the details of treatment received during the last course;

- (i) people who had no fillings and no extractions
- (ii) people who had some fillings and no extractions
- (iii) people who had some fillings and some extractions
- (iv) people who had no fillings and some extractions.

We have thus temporarily ignored such items of treatment as X-rays, and scale and polish for this summary classification. We have also excluded items of treatment relating to partial dentures. The people who had no fillings and no extractions are, for the most part, those who needed a clean and polish only, a few, however, needed denture treatment.

Initially we examined this summarised classification of the treatment received according to dental attendance pattern.

Only 6.6% of those aged 16–34 with some natural teeth and who attend for a regular check-up had any teeth extracted during their last course of treatment, whereas among those who only attend when they are having trouble with their teeth 69.3% had some teeth extracted, 47.6% having extractions but no fillings done. Looked at another way, of all the people in this age group whose last treatment consisted of extractions and no fillings 89.6% were among those people who only go to the dentist when they are having trouble with their teeth.

TABLE 11.11
Major type of treatment received by attendance pattern

Summarised pattern of treatment received in the last course*	Adults aged 16-34 with some natural teeth in England and Wales			
	Attends for regular check-up	Attends for occasional check-up	Attends only when having trouble	All
	%	%	%	%
No fillings no extractions	33.8	18.4	9.2	21.0
Some fillings no extractions	59.6	53.2	21.5	42.1
Some fillings some extractions	4.3	17.4	21.7	13.6
No fillings some extractions	2.3	11.0	47.6	23.3
	100.0	100.0	100.0	100.0
Base	379	123	369	871

*Those who were under treatment at the time of the interview have not been included as the final extent of treatment was not known.

TABLE 11.12
Major type of treatment received, by region and attendance pattern

Summarised pattern of treatment received in the last course	Adults aged 16-34 with some natural teeth				
	Those who attend for a regular check-up				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
No fillings no extractions	37.2	36.4	33.0	31.8	33.8
Some fillings no extractions	55.1	56.8	64.6	60.1	59.6
Some fillings some extractions	6.4	—	2.4	5.4	4.3
No fillings some extractions	1.3	6.8	—	2.7	2.3
	100.0	100.0	100.0	100.0	100.0
Base	86	47	87	159	379
Summarised pattern of treatment received in the last course	Those who attend when they have trouble with their teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	%	%	%	%	%
No fillings no extractions	8.9	6.5	9.4	10.5	9.2
Some fillings no extractions	20.6	10.9	13.5	34.3	21.5
Some fillings some extractions	25.0	17.4	15.6	25.7	21.7
No fillings some extractions	45.5	65.2	61.5	29.5	47.6
	100.0	100.0	100.0	100.0	100.0
Base	114	48	96	111	369

Quite a high proportion of those who attend for a regular check-up required neither fillings nor extractions (33·8%), very few who attend when they have trouble with their teeth required no fillings and no extractions (9·2%, consisting mainly of people whose partial dentures needed attention).

We examine the two extreme dental attendance patterns in more detail, showing the regional variation.

Again we see that for those who attend the dentist for a regular check-up, region has very little effect. A very similar proportion of the types of treatment received during the last course of treatment occur in each region and they are, for the most part, non-extraction treatments.

In contrast those who only attend when they have trouble with their teeth have a treatment pattern which varies with the region. In all regions there was a higher proportion of treatments involving extractions among this group of irregular dental attenders, but the proportion whose treatment involved extractions but no fillings varied regionally from under 30% in London and the South East to more than 45% in the North and over 60% in the other two regions.

We were interested to examine the number of visits to the dentist that were involved in the most recent course of treatment. Obviously, this number is determined by the type of treatment that is carried out. The tables, therefore, show the number of visits in relation to the major forms of treatment carried out.

TABLE 11.13
Number of visits in the last course of treatment, by major type of treatment

Number of visits in last course of treatment	Adults aged 16-34 with some natural teeth				
	No fillings no extractions	Some fillings no extractions	Some fillings some extractions	No fillings some extractions	All
	%	%	%	%	%
One	87·2	29·7	4·5	75·7	48·5
Two	9·3	34·0	12·5	13·2	21·2
Three	0·6	21·2	30·3	4·7	14·2
Four	1·7	8·4	29·5	4·2	8·9
Five or more	1·2	6·7	23·2	4·2	7·2
	100·0	100·0	100·0	100·0	100·0
Base	172	345	191	112	871

The people who had no fillings and no extractions and those who had 'extractions only', were the two groups who mostly had treatment completed in one visit. The type of treatment that involved many visits was that which resulted in some fillings and some extractions. It would obviously be of interest to examine the number of visits further, taking attendance pattern into account as well as treatment received.

In Table 11.14 we show the two extreme dental attendance groups, those who attend for a regular check-up and those who only go when they have trouble. It is interesting to compare the number of visits for these separate groups. The regular attenders are made up practically entirely of the two types of treatment which do not involve any extraction. Among those who had no fillings and no extractions over 90% made only one visit, for those who needed some fillings a

third were dealt with in one visit, another third in two visits, a further fifth in three visits and the rest in more than three. Thus the courses of treatment for regular attenders were fairly short. Over a half, in all, had only one visit, three quarters were dealt with in one or two visits.

For the irregular attenders the pattern was different. Firstly, of course, the majority were in the treatment types which did involve extraction. Among those who had no fillings and no extractions just over 70% made only one visit. This proportion is lower than for the regular attenders as there are more denture troubles included among these irregular attenders and these tended to require more visits.

TABLE 11.14
Number of visits in the last course of treatment, by attendance
pattern and major type of treatment

	Adults aged 16-34 with some natural teeth				
	No fillings no extractions	Some fillings no extractions	Some fillings some extractions	No fillings some extractions	All
Number of visits in last course of treatment	Those who attend for a regular check-up				
One	% 91.6	% 33.9	% —	% —	% 51.9
Two	7.6	35.0	—	—	24.7
Three	—	19.1	—	—	13.9
Four	0.8	7.1	—	—	5.6
Five or more	—	4.9	—	—	3.9
	100.0	100.0	—	—	100.0
Base	119	210	15	—	379
Number of visits in last course of treatment	Those who attend when they have trouble with their teeth				
One	% 72.7	% 27.3	% 6.4	% 77.7	% 50.9
Two	15.2	29.8	11.5	11.8	16.1
Three	3.0	24.7	23.1	3.5	12.2
Four	3.0	6.5	30.8	2.9	9.7
Five or more	6.1	11.7	28.2	4.1	11.1
	100.0	100.0	100.0	100.0	100.0
Base	33	77	78	171	369

The irregular attenders who had fillings but no extractions have a distribution fairly similar to the regular attenders but with a higher proportion having lengthier courses of treatment. The group of particular interest is the one including irregular attenders who had both fillings and extractions during the last course of treatment. The fact that one or more extractions were necessary suggest that these mouths were to some extent neglected but in these cases they were being restored to reasonable dental fitness. The proportion of people in this group who made four or more visits to the dentist was very high indeed (59.0%), only 6.4% made one visit only.

Compare this with the number of visits made by those irregular attenders who had extractions only in their last course of treatment. Here 77.7% made only one visit to the dentist; 7.0% making four or more visits.

Later we investigate how many of those who only had extractions appeared to have had treatment which came within the definition of emergency treatment of casual patients, but here we merely compare the large amount of time involved in making irregular attenders seemingly dentally fit, and the contrast in carrying out extractions alone.

We examine next whether or not an X-ray was taken during the last course of treatment. Again we examine this in relation to the treatment carried out during the last course.

TABLE 11.15
Whether X-ray was taken, by major type of treatment

Whether an X-ray was taken in the last course of treatment	Adults aged 16-34 with some natural teeth, in England and Wales				
	No fillings no extractions	Some fillings no extractions	Some fillings some extractions	No fillings some extractions	All
	%	%	%	%	%
Had X-ray	9.4	22.6	31.3	8.4	17.7
Did not	90.6	76.2	66.9	90.1	81.1
Don't know	—	1.2	1.8	1.5	1.2
	100.0	100.0	100.0	100.0	100.0
Base	172	345	112	191	871

The taking of X-rays was thus associated with whether or not fillings were carried out. We examine in Table 11.16 the proportion of people who said they had an X-ray taken according to their treatment, their dental attendance pattern and region.

TABLE 11.16
Whether X-ray was taken by attendance pattern, region and major type of treatment

Comparison between two regions	Adults aged 16-34 with some natural teeth, proportion who had an X-ray taken				
	Attend for regular check-up		Attend when have trouble with teeth		
	No fillings no extractions	Some fillings no extractions	Some fillings no extractions	Some fillings some extractions	No fillings some extractions
The North	6.8% (29)	4.6% (43)	17.4% (23)	25.0% (28)	0.0% (51)
London and the South East	17.0% (47)	38.2% (89)	30.6% (36)	33.3% (27)	16.2% (31)

There was a considerable regional, treatment, and attendance pattern variation in the use of X-rays. In the North, except for those people whose treatment was confined to extraction only, it was the irregular attenders who were X-rayed more frequently than the regular attenders. In London and the South East X-rays were carried out more frequently whatever the attendance pattern. Among all people aged 16-34 with some natural teeth the use of X-rays varied from 10.4% in the North who said they had had an X-ray in their last course of treatment, in Wales and the South West 12.0% had had an X-ray, in the Midlands and East Anglia 7.2% had had an X-ray and in London and the

South East 32.1% had had an X-ray. The differential regional use of X-rays has been a source of great puzzlement.

Finally in this section, which deals with the last course of treatment for adults aged 16-34 with some natural teeth, we examine in detail the 171 who, in this last course of treatment, had extractions but no fillings, (see Table 11.14).

We were interested to find out how many of this group were having treatment which fell within the definition of 'treatment for casual patients'. Among the group there were 14 people who were having extractions and partial dentures fitted. In addition, there were five people whose treatment had been abroad, in the forces or many years earlier in childhood. There were left 152 people, 42 of these had their treatment privately and all these people had one or two teeth only extracted. The other 110 had their treatment through the National Health Service. Among these, 101 had one or two teeth extracted and 9 had three or four extracted but with no other treatment. Five of those who had only one or two teeth out said they also had a scale and polish.

Taking private treatment and National Health Service treatment together there were 138 people in this group who received treatment which fell within the definition of 'treatment for casual patients', 30% of such treatment being obtained privately.

Of the 138 who had casual treatment, 16 were not examined in our survey dental examination, so we do not know the state of their mouths. The remaining 122 were examined. Of these, 59 had no fillings at all in their mouths, and 46 said they had never had a filling in their lives. Among those who did have restorations not all of the fillings were sound.

Where a person is treated as a 'casual patient' no restorative treatment can be given and only two teeth may be extracted. If any restorative work is undertaken, then the dentist has the responsibility under the National Health Service of making the person reasonably dentally fit.

This poses quite a problem where people only ever have casual treatment. If we look at those people who have only recently had their last casual treatment it becomes clear that these people must have had a considerable amount of decay present and untreated at the time of their last extractions.

There were 17 people among those whose last treatment had fallen within the definition of 'casual treatment' who had attended the dentist within the six months preceding the survey and had been examined by a survey dentist. Among this group there were 2 people who, on the survey examination, had no active decay, 3 people had one or two teeth with active decay (but restorable), 7 had between three and seven teeth with active decay (but restorable), and 5 had from one to seven teeth that were not restorable at all.

What will happen to the person with seven unrestorable teeth next time he obtains dental treatment? Only 2 can be extracted if he has National Health Service casual treatment. At what point does he have a course of treatment resulting in him becoming edentulous?

It is obvious that, in these circumstances, not only is active decay not treated on teeth that are restorable, but teeth which are, in fact, not restorable will sometimes be left in the mouth.

11.6 Cleaning natural teeth

During the interview every person who still had some natural teeth was asked

how often he cleaned his teeth. The variation in frequency of cleaning for different dental attendance groups was quite considerable. Again we see that those who visit the dentist only when they have trouble with their teeth have a different pattern of behaviour. The picture is similar for those aged 35 and over and those aged 16-34.

TABLE 11.17
Frequency of tooth cleaning by attendance pattern and age

Frequency of cleaning natural teeth	Adults aged 16-34 with some natural teeth			
	Attend for regular check-up	Attend for occasional check-up	Attend when have trouble with teeth	All
	%	%	%	%
Never	—	—	1.3	0.8
Less than daily	2.6	3.5	18.4	9.6
Once daily	30.2	37.2	43.3	36.9
Twice daily	56.9	54.1	33.1	46.2
Three or more times daily	10.3	5.2	3.3	6.5
	100.0	100.0	100.0	100.0
Base	379	115	369	871
Frequency of cleaning natural teeth	Adults aged 35 or more with some natural teeth			
	Attend for regular check-up	Attend for occasional check-up	Attend when have trouble with teeth	All
	%	%	%	%
Never	—	—	6.0	3.8
Less than daily	2.4	3.6	13.4	8.6
Once daily	27.6	45.7	40.4	36.5
Twice daily	57.3	43.5	34.7	43.1
Three or more times daily	12.7	7.2	5.5	8.0
	100.0	100.0	100.0	100.0
Base	340	84	533	983

We examined more closely those whose attendance pattern was the most irregular, comparing those in the North with those in London and the South East, for previously we have found some regional variation in this attendance pattern. There was a different distribution of teeth cleaning habits in the North, the irregular attenders in the North tended to clean their teeth less frequently than those with a similar attendance pattern in London and the South East. Again this was so for both age ranges.

During the interview we asked people with some natural teeth if they would demonstrate to us how they cleaned their teeth. We wished to find out how many people demonstrated an action which started with the tooth brush on the gums and then proceeded to the teeth, using a wrist action and dealing with upper and lower teeth separately. In all there were 76 people who appeared to clean their teeth with this particular cleaning action, that is about 4% of all those with some natural teeth. Of the 76 who cleaned their teeth with this wrist action going from the gums to the teeth, 54 were regular dental attenders. We

TABLE 11.18
Frequency of tooth cleaning by region, attendance pattern and age

Frequency of cleaning natural teeth	Adults aged 16-34 with some natural teeth		Adults aged 35 or more with some natural teeth	
	Attend when have trouble with teeth		Attend when have trouble with teeth	
	The North	London and the South East	The North	London and the South East
Never	0.9	1.8	5.7	4.7
Less than daily	22.5	9.9	17.5	8.4
Once daily	45.2	42.3	42.4	37.7
Twice daily	27.9	43.3	30.8	42.2
Three or more times daily	3.5	2.7	3.6	7.0
	100.0	100.0	100.0	100.0
Base	114	111	140	215

were interested to know whether a dentist had demonstrated this method to the person, 36 said they had been shown by a dentist, 40 said they had not. Among those who had not, 15 indicated that they had read something about it, had seen pictures of how to do it, been shown at school, seen it demonstrated on television or been shown by a friend or relative.

The whole question of tooth cleaning and its effects is very complex and the data from the survey have by no means been exhausted in this initial examination of tooth cleaning habits. We hope to pursue this question elsewhere but time has not permitted us to do so for this report.

11.7 Preference for extractions versus fillings

During the interview all the people who still had some natural teeth were asked whether they would prefer the tooth to be extracted or filled if they had one that was aching. The question was asked separately concerning an aching back tooth and an aching front tooth. Table 11.19 shows the preferences with regard to a back tooth or a front tooth. The results are shown regionally and for the two main age groups.

For England and Wales as a whole people showed much greater preference for restoring front teeth than restoring back teeth. For those aged 16-34 a much higher proportion of people preferred filling to extraction whether it was a front or a back tooth that was aching. For those aged 35 or more, more people wanted an aching front tooth filled rather than extracted, but as far as back teeth were concerned they were equally divided on whether they would prefer it filled or extracted.

When looked at regionally one finds that the overall higher preference for filling rather than extracting front teeth, as compared with back teeth, is common to all regions and all age groups. It would thus seem that appearance plays some considerable part in influencing dental attitude.

Among those aged 16-34 there is little difference regionally in the proportion of people preferring fillings for front teeth. The regional levels are fairly similar

TABLE 11.19
Preference for extractions versus filling, by region and age

Preference for extractions versus fillings if a tooth was aching	Adults aged 16-34 with some natural teeth									
	The North		Wales and the South West		Midlands and East Anglia		London and the South East		England and Wales	
	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth
Have it out	42.3	19.2	49.2	24.3	45.5	26.0	28.3	15.3	36.0	20.5
Have it filled	51.7	78.3	49.6	71.1	43.5	68.0	67.6	80.9	58.2	76.2
Other qualified answer	6.0	2.5	3.2	2.6	4.0	4.0	4.1	3.8	4.8	3.3
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Base	234		115		200		314		853	
Preference for extractions versus fillings if a tooth was aching	Adults aged 35 or more with some natural teeth									
	The North		Wales and the South West		Midlands and East Anglia		London and the South East		England and Wales	
	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth
Have it out	53.4	36.6	47.3	36.9	56.7	48.6	41.6	29.3	47.9	35.5
Have it filled	43.7	62.0	45.7	62.6	39.0	40.0	54.7	67.1	47.3	61.4
Other qualified answer	5.9	3.4	7.0	2.3	4.3	2.4	3.7	2.7	4.8	2.7
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Base	234		129		210		404		977	

for the older age group except for an unexplained lower level of preference for fillings in the Midlands and East Anglia.

There is much more regional variation, however, in the preferences expressed for back teeth. About 45% of people aged 16-34 in regions other than London and the South East would prefer an aching back tooth to be extracted rather than filled, whereas in London and the South East under 30% of this age group preferred extraction.

In the older age group the level of preference for extraction was higher and there was less marked regional variation, although London and the South East had the lowest proportion preferring back tooth extraction. This variation between region and age group may possibly reflect indications that we have found elsewhere that progress in dental health attitudes and behaviour is developing more rapidly in London and the South East than elsewhere.

We also examined the preference for treatment for an aching tooth in relation to general attendance pattern (Table 11.20). For all dental attendance patterns the saving of front teeth was more important than the saving of back teeth. Notwithstanding this the variation in preferences for fillings versus extractions was enormous between those who go to the dentist for a regular check-up and those who only go when they have trouble with their teeth. Among the younger age group fewer than 10% of those who go either for a regular or occasional check-up would prefer an aching front tooth to be extracted, whereas 37.7% of those who only go to the dentist when they have trouble with their teeth would prefer an aching front tooth to be extracted. Even bigger differences occurred among the older age group. These probably resulted from the fact that many more teeth are missing in this age group. To the regular attenders an additional loss is anathema and to those who only go when they have trouble one more is neither here nor there.

TABLE 11.20
Preference for extraction versus filling, by attendance pattern and age

Preference for extraction versus filling, if a tooth was aching	Adults aged 16-34 with some natural teeth							
	Attend for regular check-up		Attend for occasional check-up		Attend when having trouble with teeth		All	
	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth
	% 15.3 79.2 5.5 100.0	% 7.4 89.0 3.6 100.0	% 22.6 69.6 7.8 100.0	% 8.7 87.0 4.3 100.0	% 68.6 28.5 2.9 100.0	% 37.7 59.6 2.7 100.0	% 39.0 56.2 4.8 100.0	% 20.5 76.2 3.3 100.0
Base	379		115		369		863	
Preference for extraction versus filling, if a tooth was aching	Adults aged 35 or more with some natural teeth							
	Attend for regular check-up		Attend for occasional check-up		Attend when having trouble with teeth		All	
	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth
	% 18.2 77.9 3.9 100.0	% 8.5 88.8 2.7 100.0	% 23.8 69.0 7.2 100.0	% 14.3 83.3 2.4 100.0	% 69.9 25.1 5.0 100.0	% 55.3 41.8 2.9 100.0	% 47.9 47.3 4.8 100.0	% 35.5 61.8 2.7 100.0
Base	340		84		553		977	

The treatment preferred for aching back teeth, for people of different dental attendance patterns, is obviously destined to preserve the regular attenders as people with some natural teeth and to accelerate those who only attend when they have trouble on the path towards total tooth loss. Among those aged 16-34 who go for a regular check-up 15.3% would prefer to have an aching back tooth extracted. Among those of the same age, who only attend when having trouble, 68.6% would prefer to have an aching back tooth extracted. Similar differences were apparent among the older age group.

In Table 11.21 we show in a summarised form the proportion of people preferring filling to extraction, showing dental attendance pattern and the two extreme regions. It is of interest to see that there are only very minor differences regionally among people who attend for dental check-ups. The major regional variations occur among those who only attend when they are having trouble with their teeth. Even here most of the variation is confined to back teeth rather than front ones. In the North 24.6% of those aged 16-34 who are the most irregular attenders would prefer an aching back tooth to be filled. In London and the South East the comparable proportion is 44.1%. Thus preference for conservative treatment runs higher among irregular attenders in London and the South East.

TABLE 11.21
Preference for fillings according to attendance pattern, region and age

The North London and the South East	Proportion who would prefer aching tooth to be filled, adults aged 16-34, with some natural teeth							
	Attends for regular check-up		Attends for occasional check-up		Attends only when having trouble		All	
	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth
	81.4%	95.4%	67.7%	85.3%	24.6%	63.2%	51.7%	78.3%
	81.8%	87.4%	75.0%	86.3%	44.1%	69.4%	67.5%	80.9%
The North London and the South East	Proportion who would prefer aching tooth to be filled, adults aged 35 or more with some natural teeth							
	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth
	77.4%	92.8%	70.0%	80.0%	20.0%	42.1%	42.7%	62.0%
	79.5%	86.8%	76.3%	81.6%	33.5%	52.1%	54.7%	67.8%

We consider for all those in the younger age group who were examined, how closely their present dental state is associated with their expressed preferences for treatment. Tables 11.22 and 11.23 show the distribution of the number of teeth found to be filled and the number that were missing for the two main groups of those who would prefer an aching tooth to be filled and those who would prefer an aching tooth to be extracted.

The Tables show that there is obviously a very high association between expressed preference for treatment and the current state of the person's mouth.

TABLE 11.22
Number of filled (otherwise sound) teeth, by preference for extraction versus filling

Number of filled (otherwise sound)	Adults aged 16-34, with some natural teeth			
	Prefer aching tooth to be filled		Prefer aching tooth to be extracted	
	Back tooth	Front tooth	Back tooth	Front tooth
	%	%	%	%
None	5.6	7.4	29.0	35.8
1-5	11.7	16.3	26.4	24.2
6-11	33.8	31.9	27.4	26.7
12-17	39.5	34.2	15.6	13.3
18 or more	12.4	10.2	1.6	—
	100.0	100.0	100.0	100.0
Base	488	661	342	181

TABLE 11.23
Number of missing teeth, by preference for extraction versus filling

Number of missing teeth	Adults aged 16-34, with some natural teeth			
	Prefer aching tooth to be filled		Prefer aching tooth to be extracted	
	Back tooth	Front tooth	Back tooth	Front tooth
	%	%	%	%
None	4.1	2.7	2.2	4.2
1-5	56.5	52.6	34.4	29.8
6-11	33.1	36.5	45.3	44.3
12-17	3.7	5.0	12.4	14.5
18 or more	2.6	3.2	5.7	7.2
	100.0	100.0	100.0	100.0
Base	488	661	342	181

We have earlier seen that there is a regional variation in the amount of restorative work carried out on those who only go to the dentist when they have trouble with their teeth. Is there any evidence of a regional variation in the amount of restorative work in the mouths of those who expressed preference for extraction over fillings, or was the earlier variation the result of a greater preference for fillings in London and the South East?

TABLE 11.24
Preference for extraction, by region, and number of filled (otherwise sound) teeth

Number of filled (otherwise sound)	Adults aged 16-34 with some natural teeth							
	Prefer aching tooth to be extracted							
	The North		Wales and the South West		Midlands and East Anglia		London and the South East	
	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth	Back tooth	Front tooth
	%	%	%	%	%	%	%	%
None	32.3	38.7	35.5	42.4	38.3	48.9	11.9	15.2
1-5	33.4	31.8	18.7	23.1	22.1	16.4	27.3	26.1
6-11	25.0	22.7	29.1	19.2	25.6	24.5	31.0	36.9
12-17	8.3	6.8	14.6	15.3	12.8	10.2	27.4	21.8
18 or more	1.0	—	2.1	—	1.2	—	2.4	—
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Base	96		48		86		84	

People in London and the South East who express preference for extraction rather than filling, have, in fact, considerably more teeth which are filled (otherwise sound) than people expressing similar preferences elsewhere. It would therefore seem that dentists in London and the South East have been more successful in overcoming reluctance to have fillings.

11.8 Attitudes to having dentures in conjunction with natural teeth

All the people who had natural teeth only, and had never had dentures were asked whether, if they were to loose all their back teeth, they would prefer to manage without false teeth, to have false teeth just for the back, or to have the rest of their teeth out and have all false teeth.

We examined the answers to this question in relation to the two broad age groups and dental attendance pattern.

TABLE 11.25
Attitude to having dentures in conjunction with natural teeth
by attendance pattern and age

Attitude to having dentures if all back teeth were lost	Adults aged 16-34 with some natural teeth and no dentures			
	Attend for regular check-up	Attend for occasional check-up	Attend when having trouble with teeth	All
Manage without false teeth	%	%	%	%
Have false teeth for the back only	12.8	13.8	15.5	13.8
Have natural teeth out and full dentures*	80.0	82.2	62.3	72.9
	7.2	4.0	22.2	13.3
	100.0	100.0	100.0	100.0
Base	324	101	297	730
Attitude to having dentures if all back teeth were lost	Adults aged 35 or more with some natural teeth and no dentures			
	Attend for regular check-up	Attend for occasional check-up	Attend when having trouble with teeth	All
Manage without false teeth	%	%	%	%
Have false teeth for the back only	13.8	14.6	25.2	21.0
Have natural teeth out and full dentures*	79.9	80.3	39.5	57.2
	6.3	5.1	35.3	21.8
	100.0	100.0	100.0	100.0
Base	179	44	262	491

*Full dentures here refers to both upper and lower jaws

Among those people whose attendance pattern involved going to the dentist for a check-up, whether this was done regularly or occasionally, the attitude to dentures in conjunction with natural teeth was very similar. This was so for those aged 16-34 and those aged 35 or more. About 80% of people who had natural teeth and had never had dentures and who attended for a check-up would prefer partial dentures if they lost all of their back teeth. Of the other 20% more would prefer to manage without false teeth than would prefer to have further extractions and be provided with full dentures.

The picture was somewhat different for adults who only go the the dentist

when they are having trouble with their teeth. Among people with this attendance pattern there was a considerable difference with age also. For those aged 16-34 about 60% would prefer partial dentures if they lost all their back teeth, for those aged 35 or more only about 40% would prefer this treatment. In this attendance pattern group the alternative to not having partial dentures was more frequently further extraction and full dentures than managing without false teeth. Over 20% of those aged 16-34 with this dental attendance pattern would prefer further extractions and full dentures. This proportion was as high as 35% among those who were aged 35 or more.

It is clear that the attitudes of the different attendance pattern groups with regard to dentures are quite different. It is interesting to see that the antipathy shown towards additional extractions among people who attend for a check-up is maintained for both age groups, whereas the preference of the irregular attenders to have additional extractions is much greater among the older group. It is not possible to tell how much this difference is a process of ageing, which will in time affect the present younger age group, and how much is the result of changes in attitudes and expectations of the younger element of this attendance group.

In Table 11.26 we examine the two extreme attendance patterns in terms of the two extreme regions. Again the results are shown for the two major age groups. There was no regional difference in the attitudes to dentures of the regular attenders aged 16-34. There was, however, a fairly large difference, regionally, in the older age group. In the North a much higher proportion (16.3%) of regular attenders preferred the thought of further extractions and full dentures rather than partial dentures for back teeth. Again it is difficult to know the reason for such a variation. Possibly there has been a change in attitude among regular attenders and the older group from the North still contains vestiges of the previous attitude. On the other hand perhaps the fact that practically every other adult in the North has no natural teeth makes the total loss of natural teeth more acceptable than in London and the South East, where only about 1 in 4 adults have no natural teeth.

Among those who only attend when having trouble with their teeth there was a higher proportion expressing a preference for further extractions and full dentures in the North than there was in London and the South East. This was so in both age groups. The regional difference was smaller among those aged 16-34. It is interesting when examining the older group to note that although the proportion of irregular attenders who would prefer partial dentures if all their back teeth were missing is fairly similar in the two regions, it is only a minority attitude. The alternatives preferred are very different regionally. In London and the South East more people would prefer to manage without false teeth (32.3%) than have further extractions (27.5%) whereas in the North a much higher proportion would prefer further extractions (51.8%) to managing without (13.1%).

11.9 Attitudes to having full dentures*

Everyone who still had some natural teeth was asked what they thought of the prospect of one day having to have full dentures*. Again we examine the answers in terms of two broad age groups and dental attendance pattern.

*Full dentures here refers to both upper and lower jaws

Taking all attendance patterns together the attitude towards the possibility of having full dentures was similar for both age groups; about a quarter found the idea very upsetting, over 40% found the thought not at all upsetting.

TABLE 11.26
Attitude to dentures by attendance pattern, region and age

Attitude to having dentures if all back teeth were lost	Adults aged 16-34 with some natural teeth and no dentures			
	Attend for regular check-up		Attend when having trouble with teeth	
	The North	London and the South East	The North	London and the South East
	%	%	%	%
Manage without false teeth	11.1	7.8	16.5	15.6
Have false teeth for the back only	83.4	82.8	59.3	68.8
Have natural teeth out and full dentures*	5.5	9.4	24.2	15.6
	100.0	100.0	100.0	100.0
Base	74	128	91	90
Attitude to having dentures if all back teeth were lost	Adults aged 35 or more with some natural teeth and no dentures			
	Attend for regular check-up		Attend when having trouble with teeth	
	The North	London and the South East	The North	London and the South East
	%	%	%	%
Manage without false teeth	16.3	11.8	13.1	32.3
Have false teeth for the back only	67.4	85.4	35.1	40.2
Have natural teeth out and full dentures*	16.3	2.8	51.8	27.5
	100.0	100.0	100.0	100.0
Base	43	80	61	104

*Full dentures here refers to both upper and lower jaws.

The group of people who found the thought of full dentures least upsetting were the irregular attenders, half of whom thought it not at all upsetting.

In Table 11.28 we examined what the attitudes to full dentures were in terms of the extreme attendance patterns and the extreme regions. The acceptability of full dentures was greatest in the irregular attenders in the North. There was very little regional difference between regular attenders.

11.10 The relationship between childhood and adult attendance patterns

Among adults aged 16-34 who still had some natural teeth present we investigated the relationship between childhood attendance pattern and adult attendance pattern. We were interested to see what was the maintenance or conversion rate to regular attendance (for a check-up) as an adult. We examined

TABLE 11.27
Attitude to full dentures*, by attendance pattern and age

Attitude towards the possibility of having to have full dentures*	Adults aged 16-34 with some natural teeth			
	Attend for regular check-up	Attend for occasional check-up	Attend when having trouble with teeth	All
	%	%	%	%
Finds the thought very upsetting	27.6	29.6	25.6	26.3
Finds the thought a little upsetting	35.2	27.0	25.7	29.8
Finds the thought not at all upsetting	37.2	43.4	50.7	43.7
	100.0	100.0	100.0	100.0
Base	379	115	369	871
Attitude towards the possibility of having to have full dentures*	Adults aged 35 or more with some natural teeth			
	Attend for regular check-up	Attend for occasional check-up	Attend when having trouble with teeth	All
	%	%	%	%
Finds the thought very upsetting	35.6	26.2	22.4	27.3
Finds the thought a little upsetting	31.8	40.5	27.5	30.1
Finds the thought not at all upsetting	32.6	33.3	50.1	42.6
	100.0	100.0	100.0	100.0
Base	340	84	553	983

*In this section full dentures refers to both upper and lower jaws.

TABLE 11.28
Attitude to full dentures by attendance pattern, region and age

Attitude towards the possibility of having to have full dentures	Adults aged 16-34 with some natural teeth			
	Attend for regular check-up		Attend when having trouble with teeth	
	The North	London and the South East	The North	London and the South East
	%	%	%	%
Finds the thought very upsetting	25.0	26.5	24.6	26.6
Finds the thought a little upsetting	37.6	35.4	21.1	27.0
Finds the thought not at all upsetting	38.8	36.1	54.3	42.4
	100.0	100.0	100.0	100.0
Base	86	159	114	111
Attitude towards the possibility of having to have full dentures	Adults aged 35 or more with some natural teeth			
	Attend for regular check-up		Attend when having trouble with teeth	
	The North	London and the South East	The North	London and the South East
	%	%	%	%
Finds the thought very upsetting	40.4	35.8	20.0	26.3
Finds the thought a little upsetting	28.6	32.5	29.3	26.6
Finds the thought not at all upsetting	31.0	31.7	50.7	47.0
	100.0	100.0	100.0	100.0
Base	84	151	140	215

this in terms of the three main childhood patterns; those who went to a dentist, other than a school dentist, for a regular check-up; those who went to a dentist, other than a school dentist, but only when having trouble with the teeth; and

those who did not go to a dentist, other than a school dentist when they were a child. We also examined this in relation to region. Table 11.29 shows the proportion of each group who attend for a regular check-up, as an adult.

TABLE 11.29
Proportion of people from main childhood attendance patterns
who attend regularly as an adult

Main childhood attendance patterns	Adults aged 16-34 with some natural teeth				
	The North	Wales and the South West	Midlands and East Anglia	London and the South East	England and Wales
	Proportion who attend regularly as adults				
Regular check-up	59.2% (54)	64.1% (39)	80.0% (50)	65.8% (73)	67.1% (216)
Trouble with teeth	25.8% (62)	26.7% (30)	31.7% (63)	48.1% (79)	35.0% (234)
None*	30.9% (97)	27.0% (37)	27.8% (79)	39.9% (128)	33.1% (341)

*Other than the school dentist

For England and Wales as a whole 67.1% of adults aged 16-34 who went to the dentist (non-school dentist) for a regular check-up as a child have maintained that pattern of attendance as an adult. If we look at this group regionally, London and the South East does not seem to have fared better than the rest of the country. However, a different picture is presented by the other two childhood attendance groups.

For those adults who, as children, went to a dentist, other than the school dentist, only when having trouble with their teeth, or not at all, it is interesting to examine the level of conversion to regular attendance as an adult. For England and Wales as a whole there is very little difference between the conversion of those who went irregularly and those who did not go at all. Of the former 35.0% became regular attenders as adults, of the latter 33.1% became regular attenders as adults. For these groups of attenders who changed their dental attendance pattern for the better, there is an interesting regional variation. In London and the South East a higher proportion have been converted to regular dental attendance. In this region conversion has been somewhat more successful among those who did attend a non-school dentist in their childhood (48.1% now regular attenders) than among those who did not (39.9% now regular attenders).

Elsewhere the proportion of people who have become regular attenders is very little different in the two childhood attendance patterns or in the other three regions.

Thus again we find the situation that regular attenders have somewhat similar patterns regionally but the non-regular attenders are different in London and the South East.

In addition to examining the levels of maintenance and conversion to adult regular attendance we were interested to investigate the variations in attitude, behaviour and present dental health of the various combinations of the main childhood and adult attendance patterns. Table 11.30 gives the results. Each column in the table deals with a different combination of childhood and adult attendance patterns. The minor groups involving occasional attendance for a check-up have been excluded.

The first situation investigated is the major form of treatment received in the last course of treatment. Those who, as adults, attend regularly received the same kind of major treatment irrespective of childhood attendance pattern. This treatment only very occasionally involved extraction. Those who, as adults, attend only when they have trouble with their teeth received a very different kind of treatment, the majority of people having some extractions. Among this group, however, childhood attendance appeared to make some difference. Among those who had been regular attenders as a child the proportion of people having extractions, although high, was least of the three groups (56.4%) the highest proportion of treatments involving extractions occurred among those whose attendance pattern had been all their life that of attending a general practitioner when having trouble with the teeth (73.4%).

We examined next the attitude towards what kind of treatment would be preferred if a tooth was aching. As has been discussed in section 11.7 there is generally a greater preference to keep front teeth than to keep back teeth.

It is of interest to see that among those who have been converted to becoming regular attenders in adult life, the preference for fillings as opposed to extractions is as high as among those who have always been regular attenders. Again greater variation occurs among those whose adult attendance pattern is irregular.

In this group the stated preference in relation to back teeth for extraction as opposed to filling is quite remarkable, being well over half. For those people who, in childhood, had attended regularly the proportion who preferred extraction, although high, was not as high as in the other two groups. The greatest preference for extraction of back teeth was found among those who had always attended a general dental practitioner when having trouble with their teeth (74.0%).

It is of interest to see that although the attitudes of those whose attendance pattern has changed from regular attendance as a child to irregular attendance as an adult have gone a long way towards the pattern and attitudes of the irregular attender they have not gone the whole way. On the other hand those who have been converted to regular attendance in adult life express attitudes similar to those who have been regular attenders all their lives.

Finally we examined for these different groups the number of teeth that were filled (otherwise sound) and the number of teeth that were missing.

Earlier in the report we have seen that the number of teeth that were filled (otherwise sound) among regular attenders was vastly greater than the number of such teeth to be found among irregular attenders. The number of filled teeth was similar among adult regular attenders whatever their childhood attendance pattern had been.

As far as irregular adult attenders are concerned there is a considerable difference according to childhood pattern of attendance. Those who had been regular attenders in childhood, although they had nowhere near the level of filled teeth to be found among adult regular attenders, they had a much lower proportion of people with no sound fillings (11.1%) and a much higher proportion with 12 or more teeth that were filled (otherwise sound) (19.5%) than either of the other two irregular attendance groups. Among those who had never attended regularly over a third had no teeth that were filled (otherwise sound).

Again we see that regular attendance in childhood is not completely negated by a deterioration in dental attendance pattern in adult life. We also see that

TABLE 11.30
The dental behaviour and health of different combinations of childhood
and adult attendance patterns

Attendance as child	Adults aged 16-34 with some natural teeth					
	Regular	With trouble	None*	Regular	With trouble	None*
Attendance as adult	Regular	Regular	Regular	With trouble	With trouble	With trouble
Last course of treatment:—	%	%	%	%	%	%
No fillings, no extractions	37.0	35.5	33.3	15.4	9.5	7.6
Some fillings, no extractions	58.5	60.5	57.1	28.2	15.1	23.8
Some fillings, some extractions	1.5	4.0	6.7	20.5	23.0	20.9
No fillings, some extractions	3.0	—	2.9	35.9	52.4	47.7
	100.0	100.0	100.0	100.0	100.0	100.0
Treatment preferred for aching back tooth	%	%	%	%	%	%
Prefer back tooth filled	77.9	85.4	76.1	37.5	23.7	30.9
Prefer back tooth out	14.5	13.4	19.5	55.0	74.0	66.8
Other qualified answers	7.6	1.2	4.4	7.5	2.3	2.3
	100.0	100.0	100.0	100.0	100.0	100.0
Treatment preferred for aching front tooth	%	%	%	%	%	%
Prefer front tooth filled	86.8	92.7	86.8	70.0	62.6	57.1
Prefer front tooth out	9.7	4.9	8.8	25.0	35.9	40.6
Other qualified answers	3.5	2.4	4.4	5.0	1.5	2.3
	100.0	100.0	100.0	100.0	100.0	100.0
Number of teeth filled, otherwise sound	%	%	%	%	%	%
None	0.7	—	0.9	11.1	38.0	33.5
1-5	5.7	6.2	8.2	44.4	29.8	35.0
6-11	38.1	29.9	37.7	25.0	25.8	25.1
12-17	43.2	49.0	40.3	19.5	5.6	6.4
18 or more	12.3	14.9	12.9	—	0.8	—
	100.0	100.0	100.0	100.0	100.0	100.0
Number of teeth missing	%	%	%	%	%	%
Fewer than 3	15.8	17.5	12.9	19.4	6.4	12.9
3-5	51.1	37.7	37.7	30.6	32.3	25.8
6-8	20.9	26.2	33.9	30.5	30.6	29.0
9-11	9.4	11.2	7.3	11.1	10.5	14.2
12 or more	2.8	7.4	8.2	8.4	20.2	18.1
	100.0	100.0	100.0	100.0	100.0	100.0
Number interviewed	145	82	113	40	131	175
Number examined	139	80	109	36	124	155

*Other than the school dentist

conversion from irregular attendance as a child to regular attendance as an adult can result in a somewhat similar restoration pattern as among those who have maintained their regular attendance pattern since childhood.

A similar picture emerges from an examination of the number of missing teeth. Here the converts to regular attendance cannot quite make up the level of teeth present among the all time regular attenders but they have made considerable headway. Those who were regular attenders in childhood but not as an adult have a somewhat similar distribution of missing teeth. Those who have never been regular attenders on the other hand show a high proportion of considerable tooth loss.

Generally speaking, therefore, regular attendance pattern in childhood stands a person in good stead. If the pattern of attendance deteriorates in adult life then it is likely that the dental future for that person will be seriously affected but will not be as unfavourable as for those who have never had regular conservative dental treatment. On the other hand those who in adult life have been converted to regular dental attendance, have had much less extraction than their irregular counter parts, in fact they have received considerable restorative treatment, and, what is more, express preference for restorative treatment.

11.11 The work load on the dentist

One of the greatest differences to be found in dental health is the difference between the amount of restorative treatment received by regular dental attenders, with some natural teeth, compared with that received by irregular attenders.

By comparing the length of time since the last dental visit and the number of visits which make up a course of treatment it is possible to estimate, in very general terms, the work load, for the dentist, of a regular attender compared with an irregular one.

A regular attender with some natural teeth makes, on average, about two visits per course of treatment and may have about one course of treatment every 10 months or so (See Table 11.9). On this basis one regular patient contributes 2 x 11 visits per year.

An irregular attender, with some natural teeth also makes, on average, about two visits per course of treatment. (Although full restoration would take more visits, extractions only are usually completed in one visit.) However, he probably only attends about once in three years (See Table 11.9). He would therefore, on average, contribute two thirds of a visit per year to the dentists' work load. Assuming, for argument's sake, a visit for a regular patient takes about the same amount of time as a visit for an irregular attender, this means that one regular attender provides a work load two and a half times greater than one irregular attender.

Thus if a dentist persuades one of his irregular patients to become a regular attender he increases his work load on average two and a half times with respect to that one patient. This is not the only problem however. Table 11.13 has shown that for irregular attenders the difference in the number of visits for those who were being made dentally fit compared with those who were having extractions only was very great; 23.2% of people making five or more visits to become dentally fit. The conversion of a patient from an irregular to a regular attender not only increases the frequency of attendance in the long run, but also requires

a large amount of time and effort to be spent on initially restoring the irregular attender to dental fitness. This is not only a matter of technical time and effort but the dentist may also have the problem of overcoming reluctance to restorative dentistry. With this initial involvement of time and effort and the long-term increase in work load there is obviously a physical limit beyond which a dentist cannot cope with any further conversion of his non-regular patients into regular attenders.

In section 3.4 we gave the regional variation in the population per dentist. From the survey we know the proportion of regular attenders, for the different regions. Assuming that the pattern of attendance among children is fairly similar to adults, to what extent does the number of regular attenders per dentist vary regionally?

TABLE 11.31
Regional variation in the number of regular attenders per dentist

Survey Regions	(a) Population per dentist	(b) Proportion that are regular attenders	(c) = (a) x (b) Regular attenders per dentist
The North	5750	20%	1150
Wales and the South West	6070	19%	1150
Midlands and East Anglia	4840	25%	1210
London and the South East	3290	31%	1020

The number of regular attenders per dentist is remarkably constant for the different regions, except that London and the South East had slightly fewer regular attenders per dentist.

Although these estimates are fairly crude it would seem that there is a limit on the number of regular patients that can be attended to per dentist. It would seem, therefore, that the proportion of people in the population who can become regular attenders is limited by the number of dentists available to provide the treatment, given the present level of disease and dental knowledge.

The fact that the number of regular attenders per dentist is lower in London and the South East suggests that the number of dentists in the region is increasing slightly more quickly than irregular attenders are being persuaded to become regular attenders.

Such a hypothesis is consistent with the fact that London and the South East has the highest proportion of regular attenders, appears to have converted more people from childhood irregular attendance to adult regular attendance, provides more conservative treatment for those who are at present irregular attenders, and has fewer population per dentist than other regions.

We would therefore suggest that, given the status quo, the number of dentists required depends on the proportion of people who can be persuaded to become regular attenders. How far can a community go in achieving regular dental attendance? There is no reason to believe that London and the South East, at 31% has reached the limit. With more conversions to regular attendance even more dentists will be needed in this region. Conversely, in other regions, shortage of dentists will result in an inhibited rate of conversion to regular attendance.

How should scarce resources be distributed? One method, in the past, has been to restrict conservative treatment to those who are already dentally conscious. If this method is allowed to continue and the regional distribution of dentists continues as at present, then the regional variation in dental health will continue also.

PART VI

12.0 CONCLUSIONS

The dental health of the community is a fascinating field for study. It is a subject of interest to everyone since practically no one escapes from dental troubles at some time in his life. The survey has provided detailed information about the dental health of the adult community. The results are of interest in their detail and we have, therefore, not tried to summarise the information presented in the report. We have, instead, concentrated on drawing together the main points and conclusions that have been reached.

Throughout the analysis of the results our attention has repeatedly been drawn to the fact that dental treatment patterns affect the state of dental health for a very long period of time. This survey was carried out in 1968, twenty years after the beginning of the National Health Service. Yet of all the people who were found to have no natural teeth, 45% had lost all of their natural teeth before 1948 and had, consequently, never had the opportunity of conservative dentistry under the National Health Service.

It is easy to forget that dental health has a lifespan as long as life itself, and that if certain forms of treatment, such as extraction, are carried out among young people the situation is irrevocable, whatever changes take place in dental policy or advances made in the knowledge of dental disease, the teeth that have been extracted can never be put back. Anyone who loses all his natural teeth before the age of thirty is likely to contribute to the edentulous population for forty more years. Even if full extraction among the 20's and 30's age group diminishes in the future the dental health of the community as a whole will still reflect the dental circumstances of the past. In such terms dentistry under the National Health Service is still in its infancy, and its effects so far will only be seen in the younger age groups (adults aged 16-34).

In our terms of reference, one of the problems posed to us was to establish whether or not there was a regional variation in dental health, and if so to obtain some explanation for it.

One of the simplest indications of dental health is the proportion of people who have no natural teeth, this being the ultimate failure in preservation. In England and Wales as a whole the proportion of adults aged 16 or more who had no natural teeth was 36.8%. In London and the South East the proportion was 28.4% while in the North the proportion was 45.5%.

These results alone show that something is drastically different in our survey regions. Is there some simple demographic characteristic that explains this regional difference? The results were analysed in terms of age, sex and household social class. Further variations were found to exist but none of them explained the regional variation.

Some of the differences found in the proportion of people who had no natural teeth, taking all these factors into account, were very dramatic indeed

and served to emphasise the regional variation. For example, in England and Wales, in the age group 35-54 years, in household* social classes IV and V, 41.7% of adults had no natural teeth. The comparable figures for the North, and London and the South East were 57.6% and 23.3% respectively. Why does such a large regional difference occur in similar age and social class groups?

Nor was the regional variation in total tooth loss confined to the older age groups. Even among adults aged 16-34, although very few were edentulous, the highest proportion of people with no natural teeth was to be found in the North.

Once people have lost their natural teeth it is very difficult to find out the reasons and circumstances of the losses. However, those who still have some natural teeth must include people who will be the next to become edentulous. Who are they and are they distributed differently regionally?

The most useful group to study in this respect was those aged 16-34, since even by this age a regional variation in the proportion who had suffered total tooth loss was apparent. Also these people have had an opportunity to receive National Health Service treatment for a large part of their lives. They are also of special interest since the dental health of the future depends on the condition of the mouths of the young.

Initial investigation convinced us that there was not basically a very great difference in the occurrence of decay in the different regions. Or, at least, there were other differences which were large enough to mask any variation in disease.

It did not appear to be disease that varied but treatment. Dental treatment is the result of the interaction of two people, the patient and the dentist. It is complicated by the fact that a patient may be treated by many different dentists and he may also change his own dental attitudes during his lifetime and these will be reflected in his state of dental health.

No dentist can treat a person who does not present himself for treatment. Once a person has presented himself for treatment the dentist has the ultimate say in what treatment is provided. This is not to say that some patients do not have very firm ideas about the treatment they desire, but ultimately the type of treatment given must be the dentist's decision. However, the patient may have pre-empted this decision by his previous record of dental attendance. If his mouth has been very neglected it may not be possible to carry out full restorative treatment. In some cases, the dentist's decision about what treatment should be given may be determined by his assessment of the patient's future dental behaviour.

One factor which must be kept in mind, when investigating the variations in dental attitudes, behaviour and treatment received, is that although some people obtained conservative dental treatment before the provisions of the National Health Service many people did not. This resulted in different patterns of behaviour and different levels of expectation with regard to dental health. Such patterns of behaviour do not change overnight when a scheme becomes available under which conservative treatment can be obtained at minimal cost.

In fact the survey results show that even among those aged 16-34 who have had the opportunity of National Health Service treatment for a large part of their lives, there are still two very different patterns of attendance and behaviour.

*See Section 4.4 for definition.

But this is the first generation who have had the opportunity of conservative treatment, without economic barriers, for most of their lives, so it would be surprising if the patterns of behaviour of the community could be wholly changed as quickly as that.

Two major attendance groups were found to exist, those who said that they attended the dentist for a regular check-up and those who said that they did not go for a check-up but only attended when they were having trouble with their teeth. Among the age-group 16-34, 45.3% said they attended for a regular check-up and 41.3% said they only went to the dentist when they were having trouble with their teeth. Thus there were about equal numbers in each group. Certainly this number of people would not have been regular attenders without the National Health Service but there is no way of telling from just one survey the rate at which dental attendance patterns are changing.

Doubtless changes are taking place, but what are the sources of encouragement for people to change from being dentally unaware to being dentally conscious? Dentistry over the last twenty years, both in general practice and in the school service, has suffered from lack of resources. Consequently, the services have not always been as conducive as they might have been to changing the attitudes of those whose only expectation of dentistry is the relief of pain.

The School Dental Service, over this period, has been grossly understaffed and has had to decide how best to deploy its services. Restrictions in services have been directed at pursuing a policy of relief of pain, especially in children who do not look after their teeth.

Although policies change with time, School Dental Service policies in the 1940s affected children who were then 10-16. These people are now in their thirties and forties. Obviously policies which entrenched themselves at that time affected treatment for many years and will have influenced the dental health of people much younger than this also. We quote from 'The Health of the School Child' which reports periodically on the state of the School Dental Service.

The Health of the School Child 1939-45.

Wartime modifications:—

"... the treatment of children whose parents had failed to take regular advantage of past opportunities for treatment, should as a rule, be limited to extractions—allowance being made for those parents who showed a genuine change of attitude towards dental treatment..."

"... teeth which are technically saveable should not as a rule be filled where there is evidence of persistent neglect of oral hygiene on the part of the child..."

The Health of the School Child 1954-5.

"... in a number of the earlier reports in this series, emphasis has been laid on the importance of making the best use of a limited school dental staff and the achievements of certain authorities make it clear that, with the right outlook, a dental officer can provide satisfactory standards of freedom from dental trouble, for appreciably more than 3,000 children; the actual numbers will depend to some extent on the attitude of the school population and of their parents. Any policy directed towards this end must involve some form of restriction, and judicious discrimination by dental officers in their offers of conservative treatment has consistently been advocated by the Ministry.

Although adequate conservation of children's teeth is regarded as the hallmark of a fully developed dental service, it should not be forgotten that the prevention and relief of pain and sepsis are of primary importance to the growing child."

From the survey results we found that in the age group 16-34 those who had had treatment through the School Dental Service had on average two more teeth missing than those who had not. For a third of this age group their only experience of dentistry during their childhood was through the school system.

It is calamitous that such restrictions in services affect those who most need to be educated in dental care, not only for their own welfare but also for the dental welfare of future generations.

There are also circumstances in the general dental services which tend to perpetuate the differences between regular dental attenders and irregular attenders.

Foremost in this is the provision in the regulations for 'emergency treatment of casual patients.'

Handbook for General Dental Practitioners, National Health Service, Ministry of Health, revised to 1st March, 1966.

"Treatment of casual patients.

Practitioners may accept casual patients for the following items of treatment only, without incurring the obligation to carry out all necessary treatment.

- (a) Denture repairs . . .
- (b) The following items of emergency treatment.
 - (i) Not more than two extractions
 - (ii) . . . anaesthetic
 - (iii) . . . dressing teeth
 - (iv) . . . arrest of haemorrhage
 - (v) . . . radiological examination
 - (vi) . . . domiciliary visits . . ."

There is a financial disincentive to spending time persuading people to change their dental attitudes when dentists are paid by item of treatment and dental health education is not an item specified for payment. It could obviously take a very long time to persuade someone who had never had a filling to have one. What is more there is no absolute guarantee of success either on that occasion or for future treatment.

Such dentist-patient problems must be particularly acute in parts of the country where the population per dentist rate is nearly twice as high as in other areas.

We investigated whether there were any regional variations in the proportion of people in each of the major attendance patterns. Adults aged 16-34 in London and the South East were more disposed towards regular attendance. Those in the North were a little more disposed towards irregular attendance, but the differences were not large. The treatment received by people in the two attendance patterns was, however, vastly different. The regular attenders had large numbers of filled (otherwise sound) teeth. This was so in all the regions, although regular attenders in London and the South East tended to have a few more filled teeth than regular attenders elsewhere.

The level of conservative treatment among irregular attenders was quite different. They had very few teeth that were filled (otherwise sound). Not only was there this big difference between the two major attendance patterns but in addition the treatment received by those who only attend irregularly was different regionally.

Among irregular attenders aged 16-34 in London and the South East, 1 in 10 had no teeth at all which were filled (otherwise sound). In regions other than London and the South East as many as 4 in 10 of the irregular attenders had no teeth at all which were filled (otherwise sound). The comparable proportion among regular attenders, in all regions, was of the order of 1 in 100.

Very few people indeed have no decay (3 in 1,000), consequently very few people can afford to have no restorative treatment, if they are going to retain their natural teeth for any length of time. If decayed teeth are not filled then they will eventually become unrestorable and will have to be extracted. Every tooth extracted is one step nearer total tooth loss. On the other hand, filled teeth can remain restored and restorable for considerable lengths of time. Obviously people with no history of restorative work are likely to become edentulous much more quickly than those who have restored teeth. This being so, London and the South East are likely to suffer total tooth loss to a lesser extent than elsewhere.

Without conducting a longitudinal study, which could then record the reasons for tooth loss at the time of extraction, it is very difficult to assess the part played in tooth loss by gum disease. The presence of decay occurs, on the whole, earlier than gum disease. Thus the potential restorability of the mouth is dominated, at present, by whether or not restorative work has been carried out. However, decay and gum disease are not the only influences affecting extraction. There is also the question of the viability of the remaining teeth, and whether dentures are required. Since the development of gum disease and the provision of dentures occur, on the whole, in the same age ranges it is extremely difficult, retrospectively, to separate the importance of each in the process of tooth loss.

The main transitional stage from relying entirely on natural teeth to becoming edentulous is the provision of dentures to be worn in conjunction with natural teeth. We asked all those people who had become edentulous within the last twenty years whether they had had dentures prior to losing the last of their natural teeth. Half of them had not. Among those who had not, half had had over 20 teeth extracted to become edentulous. Thus, of all those who became edentulous in the last twenty years, a quarter of them went straight to being edentulous by losing more than 20 teeth and without ever having dentures to replace partial tooth loss.

We asked people who still had some natural teeth and who had never had any dentures what they would prefer if they lost all their back teeth; whether they would prefer to manage without false teeth, have false teeth just for the back teeth or have the rest out and full false teeth provided. Large differences in attitudes occurred for the different attendance patterns. Among the irregular attenders, 22.2% of those aged 16-34 and 35.3% of those aged 35 or more preferred additional extraction and full dentures.

Similar large differences occurred with preferences for the extraction of an aching tooth as opposed to its being filled.

We examined in considerable detail the treatment received by adults aged 16-34 during their last course of treatment. Here again attendance patterns played a very large part. Among the regular attenders very few had any extractions. In contrast, among irregular attenders 69.3% had treatment which involved extraction, 47.6% involving extraction not combined with conservative treatment.

One very perplexing regional variation occurred among the regular attenders. The use of X-rays showed a large regional variation. At two different points during the interview we asked about the use of X-rays. We asked generally whether the person had ever had an X-ray, we also asked specifically whether an X-ray had been taken during the last course of treatment. Whether regular attenders had ever had an X-ray varied between 50.0% in the North, 56.5% in Wales and the South West, 57.1% in the Midlands and East Anglia, to 84.9% in London and the South East.

Similarly with respect to the last course of treatment the proportion of regular attenders who had X-rays was very much higher in London and the South East. The use of X-rays among irregular attenders was at a much lower level but showed similar regional variations. Does this mean that fewer dentists, outside London and the South East, have X-ray machines or that fewer X-rays are taken outside London and the South East? Our inquiry cannot answer this question.

We examined the relationship between childhood dental attendance pattern and adult attendance pattern for those aged 16-34. This showed that a change of habit from irregular attendance as a child to regular attendance in adult life can result in a considerable amount of successful restorative work and that although those who have attended regularly all their lives have a somewhat better record of teeth present, those that have been converted to regular attendance are restored to a very reasonable level of dental fitness. The results also show that, once converted to regular attendance, their attitudes towards fillings as opposed to extractions become similar to those who have always been regular attenders.

For those who have slipped from regular attendance as a child to irregular attendance as an adult the dental health pattern shows signs of the early influences, for example, this group of people have more teeth that are filled (otherwise sound) and fewer that are missing than those who have been irregular attenders all their lives.

The group with the worst prognosis includes those who have had a pattern of irregular attendance all their lives. Even though in this analysis we were concerned with adults aged 16-34, a very large proportion (over a third) had no teeth at all that were filled (otherwise sound).

The two major attendance patterns, going for a regular check-up or going only when having trouble with the teeth, reveal such differences in attitudes, behaviour and treatment that we have made a rough estimate of the difference in work load on a dentist from one regular compared to one irregular attender. We estimated that a regular attender with natural teeth provides a work load about two and a half times greater than an irregular attender. Thus every time an irregular attender is converted into becoming a regular attender the dentist has two and a half times as much to do for that one person in any one year, as well as the initial work of restoring the irregular attender to dental fitness.

There is obviously a limit to the amount of work one dentist can do and consequently there is a limit to the number of conversions to regular attendance he can cope with. Taking into account the proportion of regular attenders in the different regions, and the variations in population per dentist in the different regions it would appear that throughout the country the number of regular attenders per dentist is more or less constant.

Thus the relatively greater number of dentists in London and the South East is balanced by the higher proportion of regular attenders. Conversely, the relatively smaller number of dentists in the North is counterbalanced by a smaller proportion of regular attenders.

It would therefore seem that, given the status quo, as regards the level of disease, the number of dentists that are required depends on the proportion of people that can ultimately be persuaded to become regular attenders. Conversely, it would seem that given a certain number of dentists only a certain level of regular attendance can be achieved.

Even in London and the South East, which has the highest proportion of regular attenders with natural teeth, it is unlikely that the limit of regular attendance has been reached. Until this point is reached the area will be able to continue absorbing more dentists, given the present level of productivity.

Elsewhere in the country, however, so long as the distribution of dentists remains uneven there is likely to remain a regional difference in regular attendance and consequently a regional difference in dental health.

There are thus two problems, firstly how to increase the efficient use of and the supply of dental manpower, and secondly how to distribute dental resources which are likely to remain scarce for some considerable time.

APPENDIX A

PEOPLE WHO WERE INTERVIEWED AND NOT EXAMINED

Much of the analysis in this report has depended on information obtained from the dental examination. Consequently people who were interviewed but not examined have largely been excluded. In this section we look specifically at this group to establish whether their characteristics, both personal and dental are markedly different from those of the people who were examined. It should be noted at this point that we can only do this comparative analysis for non-respondents from the examination stage of the inquiry. For the rest of our non-response i.e. people who were not interviewed, we have no other source of information. We cannot make similar estimates about the effects of their loss from the sample.

There were 274 people who gave only an interview. This is small in relation to the 2,658 who agreed to both an interview and examination. Thus any difference between the two groups would have to be very large indeed to make the distributions for the examined group unlike the distributions for the total interviewed sample. That is to say, only large differences could make the examined group not representative of the total sample interviewed.

Table A(i) shows the general characteristics of the two groups, irrespective of dental status. Subsequently we divide them into people with and without natural teeth, and compare them separately on that basis.

From Table A(i), it can be seen that there was a slightly higher proportion of edentulous people in the non-examined group. Presumably the value of the dental examination may have been less obvious to people without natural teeth. The difference in the regional distributions was small. The proportion who refused was highest in the two regions incorporating Wales and the South West, and Midlands and East Anglia. Thus the large dental variations between the North, and London and the South East, cannot be related to differences in non-response at the examination level. In terms of age and sex, the distribution for the non-examined reflected a higher proportion of women, and people in the older age groups.

It seemed possible that an unpleasant dental experience as a child or an adult might have discouraged informants from taking part in the examination. However, the results show the reverse. A higher proportion of the people who co-operated mentioned an unpleasant experience. Perhaps they welcomed a further opportunity to talk about it. It is interesting to note that 23.7% of the non-examined group had not been to a dentist as a child. The equivalent for the other group was 15.9%.

TABLE A(i)

Characteristics	People who were interviewed and examined	People who were interviewed but not examined	All people who were interviewed
Dental Status	%	%	%
Those with some natural teeth	63.7	58.4	63.2
Those with no natural teeth	36.3	41.6	36.8
	100.0	100.0	100.0
Region	%	%	%
The North	29.8	25.6	29.4
Wales and the South West	20.9	26.6	21.5
Midlands and East Anglia	14.3	19.0	14.7
London and the South East	35.0	28.8	34.4
	100.0	100.0	100.0
Sex	%	%	%
Male	48.0	39.1	47.1
Female	52.0	60.9	52.9
	100.0	100.0	100.0
Age	%	%	%
16-24	14.0	7.7	13.5
25-34	18.0	13.5	17.5
35-44	19.3	13.1	18.8
45-54	16.1	17.5	16.2
55-64	16.3	22.3	16.8
65-74	11.4	14.6	11.7
75 or more	4.9	11.3	5.5
	100.0	100.0	100.0
Childhood Experience	%	%	%
Unpleasant experience when a child	24.7	19.3	24.3
No unpleasant experience when a child	59.4	56.8	59.1
Did not go to dentist when a child	15.9	23.7	16.6
	100.0	100.0	100.0
Adult* Experience	%	%	%
Unpleasant experience as an adult	28.8	17.8	27.7
No unpleasant experience as an adult	69.5	80.7	70.6
Has not been to the dentist as an adult	1.7	1.5	1.7
	100.0	100.0	100.0
Base	2658	274	2932

*Adult taken as at 16 years of age or later.

TABLE A(ii)

People with some natural teeth	People who were interviewed and examined	People who were interviewed but not examined	All people who were interviewed
Can feel holes in natural teeth	% 31.9	% 35.8	% 32.2
Cannot feel holes in natural teeth	68.1	64.2	67.8
	100.0	100.0	100.0
Gums bleed	% 39.3	% 30.0	% 38.5
Gums do not bleed	60.7	70.0	61.5
	100.0	100.0	100.0
If back tooth aching, would:—	%	%	%
Want it filled	52.8	37.1	51.4
Want it out	42.7	56.6	43.8
Others	4.5	6.3	4.8
	100.0	100.0	100.0
Person's own estimate of the number of teeth needing attention:—	%	%	%
None	40.8	32.9	40.1
1	16.8	14.5	16.6
2	14.6	13.2	14.5
3 or more	19.5	28.9	20.3
Others	8.3	10.5	8.5
	100.0	100.0	100.0
Goes to the dentist:—	%	%	%
For regular check	40.4	24.7	39.1
For occasional check	11.0	8.9	10.8
When having trouble	48.6	66.4	50.1
	100.0	100.0	100.0
Said has had a filling	% 85.0	% 72.5	% 83.9
Said has never had a filling	15.0	27.5	16.1
	100.0	100.0	100.0
How long since last visit to dentist:—	%	%	%
Less than 6 months	38.3	24.7	37.2
6 months less than 1 year	22.1	20.1	21.9
1 year less than 3 years	19.0	24.0	19.4
3 years and over	20.6	31.2	21.5
	100.0	100.0	100.0
Base	1694	160	1854

Table A(ii) refers to people with some natural teeth. In this dental category, 1,694 people were examined and 160 were not. In general, the non-examined group exhibits less concern for dental care. With regard to dental visits, 66.4% only went when they had trouble with their teeth; and 31.2% had not been for more than 3 years. The corresponding figures for the examined group were 48.6% and 20.6% respectively. Similarly a higher proportion of people who were not examined had never had a filling—27.5% compared with 15.0%. These results are reinforced by their choice of treatment for an aching back tooth. Only 36.1% wanted it to be filled, while 52.8% of those examined chose filling instead of extraction.

On their own estimates, they had more teeth needing attention, and there was a greater frequency of bleeding gums and holes in their teeth.

Thus according to interview data, people who were not examined tended to be less dentally conscious and less dentally fit. Both these characteristics might encourage a refusal to have an examination, on a basis of disinterest, sensitivity about their dental habits and possible pain.

TABLE A(iii)

People with no natural teeth	People who were interviewed and examined	People who were interviewed but not examined	All people who were interviewed
	%	%	%
If seen without dentures by family:—			
Worries very much	11.6	17.0	12.1
Worries to some extent	18.0	16.0	17.7
Does not worry	70.4	67.0	70.2
	100.0	100.0	100.0
Age of present dentures:—	%	%	%
5 years or less	37.3	34.3	37.0
More than 5 up to and including 10 years	23.2	16.2	22.5
More than 10 up to and including 20 years	25.2	28.2	25.5
More than 20 years	14.3	21.2	15.0
	100.0	100.0	100.0
Said had natural teeth filled	42.8	29.2	41.4
Said did not have natural teeth filled	57.2	70.8	58.6
	100.0	100.0	100.0
Base	964	114	1078

We now look at people without natural teeth. There were 964 who were both interviewed and examined, and 114 who were interviewed only.

From Table A(iii) there is again evidence of less concern for dental health in the non-examined group. Just over 70% said they had never had a filling, compared with 57.2% of those who were examined. Also, their dentures tended

to be older—21.2% had worn the same dentures for over 20 years. The corresponding proportion for the examined group was 14.3%.

One interesting point is their attitude to being seen by their family without dentures. In the non-examined group 17.0% found this very worrying, compared with 11.6% in the other group. This obviously could have influenced some people in their decision not to have an examination.

Considering the non-examined people as a whole, there are certainly some differences between them and the people who were examined. In size, however, the non-examined group is only about a tenth of all people interviewed. Consequently the differences do not have a very large effect on the total interviewed sample, whose characteristics rarely differed as much as a per cent from people who were both interviewed and examined.

The analysis in this section shows that the absence of people who were not examined does not produce any serious alteration in the conclusions. It tends to suggest, however, that the situation may be slightly worse dentally than was indicated by our results.

As we have mentioned already, it is not possible to make a similar analysis of the other part of our non-response i.e. people who were not interviewed. However, it is likely that the loss at the interview stage would also have been greater among the old, the less dentally fit and the less dentally aware. This is another factor which suggests that dental health may be a little worse than our figures have shown.

APPENDIX B

THE POSTAL INQUIRY

Two months after the completion of fieldwork, we conducted a small postal inquiry to find out if participation in the Dental Health Survey had made any impact on dental attendance.

At the end of the examination, we had given each informant a leaflet from the Chief Dental Officer at the Ministry of Health. In this he recommended that people who had not been to the dentist for a year or more should make an appointment as soon as possible. Edentulous persons were not included in this recommendation since they do not need such regular attention.

Apart from the leaflet no attempt at dental education was made. In the course of the interview, however, informants were required to think carefully about their own dental health and history, and to provide a personal assessment of their treatment needs. We were interested to see whether this, combined with the leaflet and examination, had encouraged them to attend a dentist.

A random sample of 100 was drawn from the group which satisfied all the following conditions.

- (a) The informants had been interviewed, examined and had received a leaflet.
- (b) They had some or all of their natural teeth i.e. partially dentured persons were included.
- (c) They said they had not been to a dentist for a year or more.

A letter with a self-completion form attached was sent to the individuals selected. They were asked to say whether they had made an appointment to see a dentist since the dental examination in their home. After one reminder, the final response was 86 out of the 100 letters sent. In the 86 replies, only 9 people said they had made an appointment to see a dentist. Given the nature of the inquiry, it would seem likely that the 14 people who did not reply, had also not seen a dentist. If this is assumed, we can conclude that 91% of our sample had not made an appointment and 9% had. If however, the non-respondents were distributed in the same proportions as those who replied, the results would be 90% and 10% respectively.

We felt that a moderately long interview, followed by an examination by a dentist and a leaflet recommending regular dental attendance, allowed for more direct influence on dental habits than is normally possible with adult health education programmes.

We were fairly surprised that as many as 90% of the people to whom the leaflet referred, had not made an appointment to see a dentist. This suggests that in any policy to encourage regular dental attendance among adults, the encouragement would have to be very positive indeed.



APPENDIX C

THE DISTRIBUTION OF THE NUMBER OF SOUND, DECAYED AND TREATED TEETH

In section 6.1 we looked at the average number of teeth that are sound, decayed or have been treated. Here we examine the distribution of the number of sound, decayed and treated teeth. This gives some indication of the sort or ranges that lie behind the averages.

We have already seen that some of the conditions occur more frequently than others. For example, crowned and bridged teeth exist very infrequently, (107 crowns and 23 bridges among the 54,208 possible tooth positions which existed among adults with some natural teeth). Since they play so small a part, they have been excluded from this presentation of the distributions of the various conditions. In addition, teeth that are decayed and need treatment have, in this analysis, been grouped together whether or not they have been previously treated and whether or not they are restorable.

At this point we must comment more fully on the problems associated with the fact that people with some natural teeth are only a sub-group of the population, as a large number of people have no natural teeth at all.

For some analyses it is very important to compare people who are in a similar condition with regard to their natural teeth, and who therefore have similar dental expectations. For example, from Tables C(i)–C(iii) we can see that for people of all ages with some natural teeth, 4.7% had 18 or more teeth that were filled (otherwise sound). For people aged 16–34 this proportion was 6.8% whereas for those aged 35 or more the proportion was 2.9%. Thus the condition of natural teeth varies for different age groups.

For other analyses, however, especially those involving estimates, one cannot restrict the analysis to those in common circumstances. For example, although we know that 4.7% of people with some natural teeth have 18 or more teeth that are filled (otherwise sound), this figure needs to be adjusted for the fact that only 63.3% of the total population had some natural teeth, before an estimate can be made. Thus the estimate of the number of adults with 18 or more filled (otherwise sound) teeth is:—

$$\frac{4.7 \times 63.3\%}{100.0} = 3.0\%$$

Although comparisons are best made between people who are in a similar dental state, population estimates must include all people. It is therefore of paramount importance to understand clearly whether the figures relate to the whole population or only to a sub-group. In Tables C(i)–C(iii) the figures are presented in two forms, firstly on the basis of people who still have some natural teeth, and secondly including the edentulous. The results are given for adults aged 16–34, adults aged 35 and over and adults of all ages.

Table C(i) is concerned with adults aged 16-34. In the first column, we consider the teeth that were sound and untreated among the adults aged 16-34 with some natural teeth. Only 4.2% of them had fewer than six sound and untreated teeth, and only 2.3% had 27 or more teeth that were sound and untreated. People who were edentulous could not, by definition, have any sound and untreated teeth. Therefore, when the distribution is shown for all adults aged 16-34, in the second column, the proportion of people who have no teeth that are sound and untreated has risen from 0.2% to 4.5%. The average number of teeth that were sound and untreated is 14.9 for adults aged 16-34 with some natural teeth, and 14.2 for all adults of this age range. The reduction in the average is small, as there are few adults aged 16-34 who are edentulous.

The distribution of the number of filled (otherwise sound) teeth is somewhat different. There is a fairly high level of people with no such teeth, and the distribution tails off at 18 or more teeth. It is of interest to note that among this group of adults aged 16-34, as many as 15.1% of people with some natural teeth had none that were filled (otherwise sound), while only 2.3% had 27 or more teeth that were sound and untreated. Very few of the 15.1% can therefore be free from disease. The people who have already become edentulous have no filled teeth, so that when the distribution is shown for all people, in the fourth column, they are included in the 'none' category. The average number of teeth that were filled (otherwise sound) was 8.4 for adults aged 16-34 with some natural teeth, and 8.1 for all people of that age.

The distribution of the number of decayed teeth had a smaller range than the other conditions. Among adults aged 16-34 the maximum number of decayed teeth was in the range 15 to 17. Nearly four out of every ten adults aged 16-34 with some natural teeth had no decay at all. Three out of every ten had 1 to 2 teeth with decay, two out of every ten had 3 to 5 decayed teeth and one out of every ten had between 6 and 17 decayed teeth. When the distribution is calculated for all people aged 16-34, those who are edentulous contribute to the group with no decayed teeth. The average number of decayed teeth was 2.2 for adults aged 16-34 with some natural teeth and 2.1 for all adults of that age range.

Only three people in every hundred who had some natural teeth and who were in the 16-34 age group had no teeth missing. Two in every hundred had more than 20 teeth missing, and four in every hundred had 15-20 teeth missing. The most frequent range of tooth loss was 3-5 teeth missing, as 37 people out of every hundred with some natural teeth had this number of teeth missing. When the distribution is recalculated for all people aged 16-34, the edentulous have to be included in the group with 27 or more teeth missing. The average number of missing teeth was 6.4 for adults aged 16-34 with some natural teeth and 7.5 for all people of that age group.

The averages add up to 31.9 due to the exclusion of teeth that were crowned or bridged, which account for the other 0.1.

Table C(ii) is of a similar form as table C(i), and shows the distributions of the various tooth conditions for adults aged 35 and over. In this age group the proportion of people who were edentulous was high (51.4%), and therefore recalculating the distributions for all people aged 35 and over has greater consequence than it does in table C(i).

The distribution of the different tooth conditions for the two age groups can be compared from tables C(i) and C(ii).

For adults with some natural teeth, the distributions of sound and untreated teeth, show that only 4.2% of adults aged 16-34 had less than 6 sound and untreated teeth, whereas 17.8% of adults aged 35 and over had less than 6 teeth in this category. When the distribution was recalculated to include all adults aged 35 and over, it was dominated by the edentulous who, by definition, have no sound and untreated teeth. The average number of teeth that were sound and untreated among people aged 35 and over with some natural teeth was 10.9, but was only 5.0 for all people of that age.

On comparing the distribution of teeth that were filled (otherwise sound) for both age groups, it was again found that the proportion of adults with some natural teeth who had less than 6 filled (otherwise sound) teeth, is greater for those aged 35 or more (57.9%) than for those aged 16-34 (34.6%). When the distribution was recalculated to include all adults aged 35 or more, it was again dominated by the edentulous, who have no fillings. The average number of teeth that were filled (otherwise sound) for adults aged 35 and over with some natural teeth was 5.4, but was only 2.5 for all people of that age.

For people with some natural teeth, the overall distribution of the number of decayed teeth is remarkably similar among people aged 16-34 and 35 and over, although the latter group had a few instances of a greater number of decayed teeth. With decay, as with the other tooth conditions, the distribution was dominated by the edentulous when it was recalculated for all adults aged 35 and over. The average number of teeth that were decayed for adults aged 35 and over with some natural teeth was 2.2, but was only 1.0 for all people of that age.

With the reduction in the number of sound teeth, and in the number of filled (otherwise sound) teeth among adults aged 35 and over as compared with adults aged 16-34, there was a consequent increase in the number of teeth that were missing. For adults aged 35 and over, more than 13% of adults with some natural teeth had 24 or more missing teeth. The distribution of missing teeth for all adults aged 35 and over, was again dominated by the edentulous. The average

Table C(i)
Distribution of the major tooth conditions for adults aged 16-34

Number of teeth in each condition	England and Wales—adults aged 16-34							
	Sound and Untreated		Filled (otherwise sound)		Decayed		Missing	
	Adults with some natural teeth	All Adults	Adults with some natural teeth	All Adults	Adults with some natural teeth	All Adults	Adults with some natural teeth	All Adults
None	% 0.2	% 4.3*	% 15.1	% 18.7*	% 37.5	% 46.2*	% 19.8	% 31
1-2	0.9	0.9	9.2	8.8	30.6	28.7	19.8	18.3
3-5	3.4	3.0	10.3	9.4	20.5	19.6	27.4	25.8
6-8	9.6	9.2	15.0	14.4	7.6	7.3	27.1	25.9
9-11	14.2	13.6	16.5	15.6	2.6	2.5	10.7	10.2
12-14	22.7	21.7	17.9	17.1	1.1	1.0	4.5	4.3
15-17	17.0	16.2	9.2	8.6	0.7	0.7	2.3	2.2
18-20	14.8	14.1	3.4	3.2	—	—	2.1	2.0
21-23	10.2	9.8	1.3	1.2	—	—	0.9	0.9
24-26	5.0	4.8	0.1	0.1	—	—	0.4	0.4
27 or more	2.3	2.2	—	—	—	—	—	—
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Base	816	—	816	—	816	—	816	—
Average	14.9	14.2	8.4	8.1	2.2	2.1	6.4	7.5

*Includes 4.3% who were edentulous.

TABLE C(ii)
Distribution of the major tooth conditions for adults aged 35 and over

Number of teeth in each condition	England and Wales—adults aged 35 and over							
	Sound and Untreated		Filled (otherwise sound)		Decayed		Missing	
	Adults with some natural teeth	All Adults	Adults with some natural teeth	All Adults	Adults with some natural teeth	All Adults	Adults with some natural teeth	All Adults
	%	%	%	%	%	%	%	%
None	2.0	52.4*	20.8	64.5*	32.3	68.6*	0.8	0.4
1-2	3.2	1.6	16.6	7.2	33.1	16.1	1.9	0.9
3-5	12.0	6.1	13.3	6.6	20.6	10.0	11.2	5.4
6-8	20.3	9.9	13.4	6.5	6.8	3.3	16.3	8.0
9-11	18.1	8.8	11.4	5.5	2.5	1.2	16.4	8.0
12-14	17.9	8.7	9.0	4.4	1.3	0.6	15.9	7.8
15-17	11.5	4.6	5.4	2.6	—	—	8.9	4.3
18-20	7.7	3.7	2.2	1.0	0.8	—	5.9	2.6
21-23	4.6	2.2	0.7	0.3	—	0.1	3.9	1.8
24-26	1.8	0.6	—	—	0.1	0.1	2.7	1.2
27 or more	0.6	0.4	—	—	—	—	3.9	53.3*
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Base	878	—	878	—	878	—	878	—
Average	10.9	5.0	5.4	2.5	2.2	1.0	13.4	23.4

*Includes 51.4% who were edentulous.

TABLE C(iii)
Distribution of the major tooth conditions for adults of all ages

Number of teeth in each condition	England and Wales—adults of all ages							
	Sound and Untreated		Filled (otherwise sound)		Decayed		Missing	
	Adults with some natural teeth	All Adults	Adults with some natural teeth	All Adults	Adults with some natural teeth	All Adults	Adults with some natural teeth	All Adults
	%	%	%	%	%	%	%	%
None	1.2	37.6*	22.6	51.1*	36.3	56.3*	1.9	1.2
1-2	2.1	1.3	12.7	7.6	31.6	20.0	6.2	3.9
3-5	8.0	5.1	12.9	7.5	20.5	12.9	23.9	15.1
6-8	13.1	9.5	14.2	9.0	7.2	4.3	21.6	13.6
9-11	16.2	10.2	13.9	8.6	2.3	1.6	13.6	8.6
12-14	20.1	12.7	11.3	8.4	1.2	0.8	10.4	6.6
15-17	14.2	5.0	7.2	4.6	0.4	0.3	5.7	3.6
18-20	11.2	7.1	3.7	2.3	0.2	0.1	3.8	2.4
21-23	7.3	4.4	1.0	0.6	—	—	3.2	2.3
24-26	3.1	1.9	0.1	0.1	—	0.1	2.5	1.5
27 or more	1.5	0.9	—	—	—	—	2.2	38.2*
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Base	1694	—	1694	—	1694	—	1694	—
Average	12.8	7.8	6.8	4.2	2.2	1.4	10.1	18.5

*Includes 36.8% who were edentulous.

number of missing teeth for adults aged 35 and over with some natural teeth, was 13.4. This average went up to 23.4 missing teeth when the edentulous were included.

The combined results of tables C(i) and C(ii) are presented in a similar way in table C(iii), which shows the distribution for the tooth conditions for adults of all ages.

These distributions illustrate that very few people had anything like a perfect mouth. The vast majority of people with some natural teeth were somewhere between being perfectly dentally fit and grossly dentally unfit. This examination of the distributions of different tooth conditions has provided some indication of the variations that exist between the two age groups. The older age group is, however, very mixed as it contains ages ranging from the thirties to the eighties.

APPENDIX D

THE AVERAGE NUMBER OF TEETH IN EACH CONDITION

In section 6.1 in the main report we discussed the average number of teeth in each condition. This was presented for the two major age groups and all ages together. It is of interest to examine these averages in relation to other sub-groups of the population. We, therefore, present, in the following tables, the average number of teeth in each condition for the following groups:—

- (i) England and Wales, those who go to the dentist for a regular check-up.
- (ii) England and Wales, those who go to the dentist when they are having trouble with their teeth.
- (iii) The North, those who go to the dentist for a regular check-up.
- (iv) The North, those who go to the dentist when they are having trouble with their teeth.
- (v) London and the South East, those who go to the dentist for a regular check-up.
- (vi) London and the South East, those who go to the dentist when they are having trouble with their teeth.
- (vii) England and Wales, male, by age.
- (viii) England and Wales, female, by age.
- (ix) England and Wales, both sexes, by age.
- (x) England and Wales, household social class I, II, and III non-manual.
- (xi) England and Wales, household social class III manual.
- (xii) England and Wales, household social class IV and V.
- (xiii) The North—household social class.
- (xiv) London and the South East—household social class.

(i) England and Wales—Those who go to the dentist for a regular check-up.

Tooth conditions	Average number of teeth in each condition									
	England and Wales—Those who go to the dentist for a regular check-up						Adults of all ages, with some natural teeth			
	Adults aged 16-34, with some natural teeth			Adults aged 35 and more, with some natural teeth						Both
	Male	Female	Both	Male	Female	Both	Male	Female	Both	
Sound and untreated	13.2	13.2	13.2	11.0	9.7	10.3	12.2	11.6	11.8	
Crowned or bridged	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	
Filled, otherwise sound	12.0	12.3	12.1	9.8	10.0	9.9	10.9	11.3	11.1	
Filled and decayed	0.7	0.6	0.7	0.9	0.9	0.9	0.8	0.7	0.8	
Decayed, not previously treated but restorable	0.5	0.3	0.4	0.4	0.2	0.3	0.4	0.3	0.4	
Not restorable	—	—	—	0.1	—	—	0.1	—	—	
Missing	5.5	5.5	5.5	9.6	11.0	10.4	7.4	8.0	7.8	
Total	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	
Base	149	217	366	142	172	314	291	389	680	

(ii) England and Wales—Those who go to the dentist when they are having trouble with their teeth.

Tooth conditions	Average number of teeth in each condition									
	England and Wales—Those who go to the dentist when they are having trouble with their teeth.									
	Adults aged 16-34, with some natural teeth			Adults aged 35 and more, with some natural teeth			Adults of all ages, with some natural teeth			
	Male	Female	Both	Male	Female	Both	Male	Female	Both	
Sound and untreated	17.0	15.4	16.3	11.6	10.9	11.3	13.9	12.6	13.4	
Crowned or bridged	—	—	—	0.1	—	—	—	—	—	
Filled, otherwise sound	3.9	4.9	4.3	2.3	2.0	2.2	3.0	3.2	3.0	
Filled and decayed	0.6	0.7	0.7	0.6	0.3	0.5	0.6	0.5	0.5	
Decayed, not previously treated but restorable	2.4	1.9	2.2	1.7	1.5	1.6	2.0	1.7	1.9	
Not restorable	0.8	0.6	0.7	1.0	0.7	0.9	0.9	0.7	0.8	
Missing	7.3	8.5	7.8	14.7	16.6	15.5	11.6	13.3	12.4	
Total	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	
Base	199	135	334	276	207	483	475	342	817	

(10) The North—Those who go to the dentist for a regular check-up.

Tooth conditions	Average number of teeth in each condition							
	The North—Those who go to the dentist for a regular check-up							
	Adults aged 16-34, with some natural teeth		Adults aged 35 and more, with some natural teeth		Adults of all ages, with some natural teeth			
	Male	Female	Both	Male	Female	Both	Male	Female
Sound and untreated	14.9	12.8	13.7	10.3	9.9	10.1	12.7	11.5
Crowned or bridged	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Filled, otherwise sound	10.3	11.5	10.9	10.4	7.9	8.9	10.3	9.7
Filled and decayed	0.8	1.0	1.0	0.9	1.4	1.2	0.9	1.2
Decayed, not previously treated but restorable	0.5	0.5	0.5	0.7	0.3	0.5	0.6	0.4
Not restorable	—	—	—	—	—	—	—	—
Missing	5.4	6.2	5.8	9.6	12.4	11.2	7.4	9.1
Total	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Base	35	49	84	32	44	76	67	93
								160

(iv) The North—Those who go to the dentist when they are having trouble with their teeth.

Tooth conditions	Average number of teeth in each condition									
	The North—Those who go to the dentist when they are having trouble with their teeth						Adults of all ages, with some natural teeth			
	Adults aged 16-34, with some natural teeth			Adults aged 35 and more, with some natural teeth			Male		Female	
	Male	Female	Both	Male	Female	Both	Male	Female	Both	Both
Sound and untreated	17.9	16.4	17.4	11.4	9.6	10.6	14.7	12.4	13.8	13.8
Crowned or bridged	—	—	—	—	—	—	—	—	—	—
Filled, otherwise sound	3.5	3.1	3.4	1.8	1.9	1.8	2.6	2.4	2.5	2.5
Filled and decayed	0.7	1.0	0.8	0.5	0.4	0.5	0.6	0.6	0.6	0.6
Decayed, not previously treated but restorable	2.6	2.8	2.6	2.4	1.6	2.1	2.5	2.1	2.3	2.3
Not restorable	0.6	0.2	0.5	0.7	0.5	0.6	0.7	0.4	0.5	0.5
Missing	6.7	8.5	7.3	15.2	18.0	16.4	10.9	14.1	12.3	12.3
Total	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Base	70	36	106	71	53	124	141	89	230	230

(vi) London and the South East—Those who go to the dentist when they are having trouble with their teeth.

Tooth conditions	Average number of teeth in each condition								
	London and the South East—Those who go to the dentist when they are having trouble with their teeth.						Adults of all ages, with some natural teeth		
	Adults aged 16-34, with some natural teeth			Adults aged 35 and more, with some natural teeth					
	Male	Female	Both	Male	Female	Both	Male	Female	Both
Sound and untreated	15.7	14.1	15.0	11.5	11.3	11.5	13.0	12.2	12.6
Crowned or bridged	—	0.1	—	0.1	—	0.1	0.1	—	0.1
Filled, otherwise sound	6.3	6.9	6.6	3.1	2.4	2.7	4.3	3.9	4.1
Filled and decayed	0.6	0.7	0.7	0.7	0.4	0.5	0.7	0.5	0.6
Decayed, not previously treated but restorable	1.6	1.2	1.5	1.3	1.7	1.5	1.4	1.5	1.5
Not restorable	0.5	0.8	0.6	1.0	0.9	0.9	0.8	0.9	0.8
Missing	7.3	8.2	7.6	14.3	15.3	14.8	11.7	13.0	12.3
Total	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Base	59	44	103	103	90	193	162	134	296

(vi) England and Wales—Male, by age

Tooth conditions	Average number of teeth in each condition					
	England and Wales					
	Adults with some natural teeth—Male					
	16-24	25-34	35-44	45-54	55 and over	All ages
Sound and untreated	16.7	14.6	13.0	10.6	9.7	13.3
Crowned or bridged	0.1	0.1	0.1	0.1	0.1	0.1
Filled, otherwise sound	7.8	7.1	6.2	5.2	3.1	6.2
Filled and decayed	0.6	0.8	0.7	0.7	0.7	0.7
Decayed, not previously treated but restorable	1.5	1.6	1.4	1.2	0.9	1.4
Not restorable	0.4	0.5	0.5	0.5	0.9	0.5
Missing	4.9	7.3	10.1	13.7	17.1	9.8
Total	32.0	32.0	32.0	32.0	32.0	32.0
Base	171	226	221	124	116	858

(viii) England and Wales—Female, by age

Tooth conditions	Average number of teeth in each condition					
	England and Wales					
	Adults with some natural teeth—Female					
	16-24	25-34	35-44	45-54	55 and over	All ages
Sound and untreated	16.1	12.4	11.0	9.9	8.1	12.3
Crowned or bridged	0.1	—	0.1	0.1	—	0.1
Filled, otherwise sound	8.6	10.0	7.2	4.8	4.0	7.5
Filled and decayed	0.6	0.8	0.7	0.6	0.4	0.6
Decayed, not previously treated but restorable	1.0	0.8	0.8	0.9	0.9	0.9
Not restorable	0.2	0.3	0.2	0.5	0.6	0.3
Missing	5.4	7.7	11.1	15.2	18.0	10.3
Total	32.0	32.0	32.0	32.0	32.0	32.0
Base	200	219	175	133	109	836

(ix) England and Wales—both sexes, by age.

Tooth conditions	Average number of teeth in each condition						
	England and Wales						
	Adults with some natural teeth—Both sexes						
	16-24	25-34	35-44	45-54	55 and over	All ages	
Sound and untreated	16.4	13.5	12.5	10.2	9.0	12.8	
Crowned or bridged	0.1	0.1	0.1	0.1	—	0.1	
Filled, otherwise sound	8.2	8.5	6.7	5.0	3.5	6.8	
Filled and decayed	0.6	0.8	0.7	0.6	0.6	0.7	
Decayed, not previously treated but restorable	1.2	1.2	1.2	1.1	0.9	1.1	
Not restorable	0.3	0.4	0.4	0.5	0.7	0.4	
Missing	5.2	7.5	10.4	14.5	17.3	10.1	
Total	32.0	32.0	32.0	32.0	32.0	32.0	
Base	371	445	396	257	225	1694	

(x) England and Wales—Household social class I, II and III non-manual.

Tooth conditions	Average number of teeth in each condition								
	England and Wales—Household social class I, II and III non-manual								
	Adults aged 16-34, with some natural teeth			Adults aged 35 and more, with some natural teeth			Adults of all ages, with some natural teeth		
	Male	Female	Both	Male	Female	Both	Male	Female	Both
Sound and untreated	14.4	13.3	13.9	10.7	9.6	10.3	12.4	11.3	11.8
Crowned or bridged	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.3
Filled, otherwise sound	9.3	12.1	10.6	7.1	7.7	7.4	8.1	9.6	8.8
Filled and decayed	0.8	0.7	0.7	0.8	0.7	0.7	0.8	0.7	0.7
Decayed, not previously treated but restorable	1.2	0.6	0.9	0.9	0.6	0.7	1.0	0.6	0.8
Not restorable	0.2	0.1	0.2	0.5	0.3	0.4	0.4	0.2	0.3
Missing	6.0	5.1	5.5	11.8	13.0	12.4	9.1	9.5	9.3
Total	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Base	150	141	291	176	180	356	326	321	647

(x) England and Wales—Household social class III manual

Tooth conditions	Average number of teeth in each condition									
	England and Wales—Household social class III manual									
	Adults aged 16-34, with some natural teeth		Adults aged 35 and more, with some natural teeth		Adults of all ages, with some natural teeth					
	Male	Female	Both	Male	Female	Both	Male	Female	Both	
Sound and untreated	15.8	14.8	15.2	11.7	11.2	11.5	13.6	13.2	13.4	
Crowned or bridged	—	0.1	0.1	0.1	—	0.1	0.1	0.1	0.1	
Filled, otherwise sound	6.6	8.3	7.5	4.5	4.4	4.4	5.4	6.6	6.0	
Filled and decayed	0.8	0.6	0.7	0.6	0.5	0.6	0.7	0.6	0.6	
Decayed, not previously treated but restorable	1.8	0.9	1.3	1.3	1.1	1.2	1.5	1.0	1.3	
Not restorable	0.4	0.2	0.3	0.6	0.3	0.5	0.5	0.3	0.4	
Missing	6.6	7.1	6.9	13.2	14.5	13.7	10.2	10.2	10.2	
Total	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	
Base	151	181	332	179	135	314	330	316	646	

(xii) England and Wales—Household social class IV and V.

Tooth conditions	Average number of teeth in each condition								
	England and Wales—Household social class IV and V								
	Adults aged 16-34, with some natural teeth			Adults aged 35 and more, with some natural teeth			Adults of all ages, with some natural teeth		
	Male	Female	Both	Male	Female	Both	Male	Female	Both
Sound and untreated	17.1	14.6	15.7	11.8	11.3	11.5	14.0	13.1	13.5
Crowned or bridged	—	—	—	—	0.1	—	—	—	—
Filled, otherwise sound	5.4	6.5	6.0	3.0	3.4	3.2	4.1	5.0	4.5
Filled and decayed	0.4	0.8	0.6	0.6	0.5	0.6	0.5	0.6	0.6
Decayed, not previously treated but restorable	1.8	1.6	1.7	1.7	1.2	1.5	1.8	1.4	1.6
Not restorable	0.8	0.5	0.7	1.1	0.6	0.9	1.0	0.5	0.8
Missing	6.5	8.0	7.3	13.8	14.9	14.3	10.6	11.4	11.0
Total	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Base	73	83	156	93	79	172	166	162	328

(xiii) The North—Household social class

Tooth conditions	Average number of teeth in each condition									
	The North									
	Adults aged 16-34, with some natural teeth					Adults aged 35 and more, with some natural teeth				
	Household social class					Household social class				
	I, II and III non-manual	III manual	IV and V	I, II and III non-manual	III manual	IV and V	I, II and III non-manual	III manual	IV and V	
Sound and untreated	14.1	16.4	17.5	10.0	10.5	11.6	11.6	14.0	15.0	
Crowned or bridged	0.1	0.1	—	—	—	0.1	0.1	0.1	—	
Filled, otherwise sound	9.5	5.8	4.7	6.2	3.5	2.4	7.5	4.9	3.7	
Filled and decayed	1.3	0.9	0.6	1.1	0.5	0.6	1.2	0.7	0.6	
Decayed, not previously treated but restorable	1.4	1.6	1.9	1.1	1.6	2.2	1.2	1.6	2.1	
Not restorable	0.1	0.2	0.6	0.4	0.3	0.5	0.3	0.2	0.5	
Missing	5.5	7.0	6.7	13.2	15.6	14.6	10.1	10.5	10.1	
Total	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	
Base	63	106	48	93	71	37	156	177	85	

(xiv) London and the South East—Household social class

Tooth conditions	Average number of teeth in each condition									
	London and the South East									
	Adults aged 16-34, with some natural teeth					Adults aged 35 and more, with some natural teeth				
	Household social class					Household social class				
	I, II and III non-manual	III manual	IV and V	I, II and III non-manual	III manual	IV and V	I, II and III non-manual	III manual	IV and V	IV and V
Sound and untreated	13.4	13.7	14.6	10.3	11.4	11.5	11.6	12.4	12.8	12.8
Crowned or bridged	0.1	0.1	—	0.2	0.1	0.1	0.4	0.1	—	—
Fitted, otherwise sound	12.3	9.7	8.0	7.9	5.4	3.8	9.8	7.4	5.4	5.4
Filled and decayed	0.5	0.6	0.6	0.7	0.7	0.4	0.6	0.6	0.5	0.5
Decayed, not previously treated but restorable	0.4	0.3	1.2	0.5	1.1	1.2	0.5	1.0	1.2	1.2
Not restorable	0.1	0.3	0.5	0.4	0.5	1.0	0.2	0.4	0.8	0.8
Missing	5.2	6.8	7.1	12.0	12.8	14.0	8.9	10.1	11.3	11.3
Total	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Base	128	108	47	156	132	73	284	240	120	120



APPENDIX E

DETAILED FIGURES ON WHICH DIAGRAMS ARE BASED

The diagrams presented in figures 6.1 to 6.4 and 7.1 to 7.6 are based on the information contained in the following tables. With respect to gum conditions we present, in addition, the number of 'loose teeth' that were found to exist. This condition occurred too infrequently for a diagram to be usefully constructed.

BASIS FOR FIGURE 6.1

- (i) Adults of all ages, with some natural teeth

See Table 6.9 in text

BASIS FOR FIGURE 6-1
(II) Adults aged 16-34, with some natural teeth

Condition of tooth	Adults aged 16-34, with some natural teeth															
	Upper Jaw								Lower Jaw							
	Left				Right				Left				Right			
	Molars		Premolars		Canine		Incisors		Canine		Premolars		Incisors		Canine	
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Sound and untreated	20.6	15.1	7.1	33.3	37.7	77.8	62.7	67.7	66.4	61.5	77.9	36.6	31.9	6.5	13.8	21.6
Crowned or bridged	—	—	0.1	0.1	0.1	—	1.0	1.3	1.5	0.7	0.1	—	—	—	—	—
Filled, otherwise sound	22.4	54.5	44.6	37.4	38.4	10.0	19.1	18.3	17.0	20.1	10.8	38.0	39.8	47.2	56.6	18.3
Filled and decayed	1.7	4.2	4.8	2.2	1.3	1.3	1.8	1.8	2.3	2.6	1.2	1.6	2.3	4.0	3.1	1.6
Decayed, not previously treated, but restorable	5.9	7.7	3.7	3.2	3.7	3.8	5.5	3.3	4.8	4.4	4.0	3.6	3.6	3.4	8.9	4.5
Not restorable	2.1	1.6	1.3	1.5	1.8	0.7	0.6	0.2	0.4	0.5	0.5	1.7	1.6	2.0	1.2	1.2
Missing	47.3	16.9	38.4	22.3	17.0	6.4	9.3	7.4	7.6	10.2	5.5	18.5	20.8	36.9	16.4	52.8
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 816

BASIS FOR FIGURE 6-1
(D) Adults aged 16-34, with some natural teeth

Adults aged 16-34, with some natural teeth																	
Lower Jaw																	
Condition of tooth	Left									Right							
	Molars			Premolars			Can- ine	Incisors			Can- ine	Premolars			Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
Sound and untreated	% 21.1	% 11.4	% 5.1	% 37.7	% 67.7	% 93.3	% 94.6	% 94.8	% 95.0	% 94.6	% 92.4	% 65.9	% 41.1	% 5.3	% 10.7	% 18.9	
Crowned or bridged	—	—	0.1	0.1	—	—	0.1	—	—	—	—	—	—	—	0.1	—	
Filled, otherwise sound	22.1	49.9	36.6	34.9	21.2	3.1	2.8	2.6	2.8	2.5	3.8	22.5	34.2	38.0	47.9	22.8	
Filled and decayed	2.0	5.1	4.8	2.2	1.5	0.7	0.1	0.1	0.1	0.2	—	1.0	2.1	3.6	6.0	1.3	
Decayed, not previously treated, but restorable	4.9	5.8	2.1	4.4	2.5	1.6	0.7	0.7	0.9	1.5	2.1	2.8	3.4	1.7	7.2	4.7	
Not restorable	1.1	2.1	2.3	0.7	0.5	—	—	—	—	—	—	0.9	1.6	1.8	2.1	0.6	
Missing	48.8	25.7	49.0	20.0	6.6	1.3	1.7	1.8	1.2	1.2	1.7	6.9	17.6	49.6	26.0	51.7	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Base = 816

BASIS FOR FIGURE 6.1
(10) Adults aged 35 or more, with some natural teeth

Adults aged 35 or more, with some natural teeth																
Upper Jaw																
Condition of tooth	Left										Right					
	Molars			Premolars		Can- ine	Incisors			Can- ine	Premolars		Molars			
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Sound and untreated	% 10.5	% 6.9	% 4.6	% 17.7	% 21.4	% 42.5	% 37.9	% 45.3	% 45.0	% 41.4	% 46.2	% 20.4	% 16.5	% 5.1	% 8.3	% 11.6
Crowned or bridged	—	—	0.3	0.5	0.4	0.2	0.8	1.2	1.3	1.8	0.3	0.2	0.2	—	—	0.1
Filled, otherwise sound	21.3	28.8	16.7	18.7	17.9	14.7	15.3	13.9	14.4	14.1	16.2	20.7	19.4	20.3	29.3	18.3
Filled and decayed	2.5	3.4	2.2	1.8	2.1	3.1	2.2	1.7	2.2	3.2	2.5	2.3	1.7	1.8	3.2	2.4
Decayed, not previously treated, but restorable	3.8	4.0	1.5	2.6	2.4	7.2	6.0	5.2	6.2	5.0	4.6	—	—	—	—	—
Not restorable	2.4	1.6	1.1	2.5	1.6	1.9	1.5	0.7	0.5	1.0	1.3	1.3	1.8	1.4	3.0	2.8
Missing	59.5	55.3	73.6	56.2	54.2	30.4	36.3	32.0	30.4	33.5	28.9	51.9	57.6	68.8	54.7	63.7
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 878

BASIS FOR FIGURE 6-1
(iii) Adults aged 35 or more, with some natural teeth

Condition of teeth		Adults aged 35 or more, with some natural teeth														
		Lower Jaw														
		Left					Right									
		Molars		Premolars		Can-ine	Incisors			Can-ine	Premolars		Molars			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
Sound and untreated	9.9	8.0	4.1	27.1	48.1	83.9	87.4	89.1	88.0	88.2	82.5	48.4	27.1	4.8	6.9	9.0
Crowned or bridged	—	—	0.4	0.2	0.1	—	—	0.1	0.1	—	—	0.1	0.1	0.5	0.1	—
Filled, otherwise sound	20.0	24.9	15.1	24.1	24.4	6.0	3.0	0.8	1.3	2.3	6.4	20.8	24.3	14.1	26.9	22.7
Filled and decayed	3.0	3.0	2.4	2.2	1.9	1.0	0.1	—	0.2	0.1	0.7	1.5	2.2	2.2	2.7	2.1
Decayed, not previously treated, but restorable	3.3	2.5	1.1	3.3	4.4	3.6	1.9	1.1	1.4	2.1	4.1	5.0	3.8	1.4	2.1	2.8
Not restorable	2.3	2.1	1.4	1.8	1.6	1.5	1.1	0.9	0.7	1.5	1.7	2.3	3.1	1.1	1.8	2.4
Missing	61.5	59.5	75.5	41.3	19.5	4.0	6.5	8.0	8.3	5.8	4.6	21.9	39.4	75.9	59.5	61.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 878

BASIS FOR FIGURE 6.2

(i) Those from London and the South East who attend for a regular check-up, adults aged 16-34, with some natural teeth

Those from London and the South East who attend for a regular check-up, adults aged 16-34, with some natural teeth																	
Condition of tooth	Upper Jaw																
	Left									Right							
	Molars			Premolars			Can- ine	Incisors			Can- ine	Premolars			Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
Sound and untreated	% 11.2	% 5.3	% 2.6	% 19.7	% 18.4	% 73.7	% 55.9	% 65.8	% 63.9	% 59.2	% 72.4	% 19.7	% 20.4	% 1.3	% 2.0	% 11.2	
Crowned or bridged	—	—	0.7	0.7	0.7	—	1.3	0.7	2.6	0.7	—	—	—	—	—	—	
Filled, otherwise sound	34.9	80.2	63.2	65.1	66.4	17.1	30.9	24.3	23.0	28.9	17.1	64.5	61.8	71.0	82.9	25.7	
Filled and decayed	1.3	2.6	3.9	1.3	—	1.3	1.3	1.3	2.6	3.3	3.3	2.0	2.0	2.0	3.3	1.3	
Decayed, not previously treated, but restorable	0.7	0.7	—	0.7	—	2.6	2.0	1.3	0.7	0.7	2.6	1.3	1.3	0.7	1.3	0.7	
Not restorable	—	0.7	—	0.7	—	—	—	—	—	—	—	0.7	—	—	—	—	
Missing	51.9	10.5	29.6	11.8	14.5	5.3	8.6	6.6	7.2	7.2	4.6	11.8	14.5	25.0	10.5	61.1	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Base = 152

BASIS FOR FIGURE 6.2

(i) Those from London and the South East who attend for a regular check-up, adults aged 16-34, with some natural teeth

Condition of tooth	Those from London and the South East who attend for a regular check-up, adults aged 16-34, with some natural teeth															
	Lower Jaw															
	Left								Right							
	Molars		Premolars		Can-ine		Incisors		Can-ine		Premolars		Molars			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
% 12.5	% 1.3	% 0.7	% 23.0	% 55.9	% 92.1	% 94.6	% 93.4	% 94.1	% 92.7	% 92.7	% 54.6	% 25.0	% 0.7	% 3.3	% 9.2	
—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.7	—	
38.2	77.7	56.5	56.5	34.9	4.6	3.3	2.6	2.6	2.0	5.3	38.8	58.5	55.3	75.6	40.1	
0.7	3.3	5.3	0.7	2.6	0.7	0.7	—	—	0.7	—	1.3	0.7	2.6	1.3	—	
1.3	1.3	0.7	0.7	1.3	1.3	0.7	0.7	—	2.0	0.7	—	—	—	0.7	—	
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
47.3	16.4	36.8	19.1	5.3	1.3	0.7	3.3	3.3	2.6	1.3	5.3	15.8	41.4	18.4	50.7	
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Base = 152

BASIS FOR FIGURE 6-2

(a) Those from London and the South East who attend only when having trouble, adults aged 16-34, with some natural teeth.

Condition of tooth	Those from London and the South East who attained only when having trouble, adults aged 16-34, with severe natural teeth.															
	Upper Jaw															
	Left								Right							
	Molars		Premolars		Can-line		Incisors		Can-line		Premolars		Molars			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
% 21.4	% 15.5	% 5.8	% 35.0	% 41.8	% 70.0	% 65.0	% 66.9	% 68.1	% 61.2	% 76.6	% 40.8	% 32.0	% 8.7	% 13.6	% 20.4	
—	—	—	—	—	—	1.0	1.0	—	—	1.0	—	—	—	—	—	
14.6	43.7	41.8	28.2	26.2	8.7	9.7	11.7	12.6	14.6	11.7	26.2	29.1	40.8	48.5	14.6	
1.0	2.9	5.8	1.0	1.0	1.9	2.9	3.9	2.9	1.9	—	1.0	3.9	2.9	1.0	1.0	
6.8	7.8	2.9	1.9	5.8	2.9	4.9	2.9	1.9	2.9	1.9	2.9	3.9	3.9	11.7	2.9	
2.9	4.9	1.9	2.9	2.9	1.9	1.9	1.0	1.9	1.0	1.0	2.9	2.9	1.9	1.9	1.9	
53.3	25.2	41.8	31.0	22.3	14.6	14.6	12.6	12.6	18.4	7.8	26.2	28.2	41.8	23.3	59.2	
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Base = 103

BASIS FOR FIGURE 6-2
(d) Those from London and the South East who attend only when having trouble, adults aged 16-34, with some natural teeth.

Condition of tooth	Lower Jaw															
	Left								Right							
	Molars		Premolars		Can-ine	Incisors			Can-ine	Premolars			Molars			
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Sound and untreated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crowned or bridged	17.5	40.8	35.0	24.3	15.5	5.8	3.9	1.9	1.9	2.9	4.9	14.6	22.3	36.9	32.1	16.5
Filled, otherwise sound	1.9	3.9	2.9	2.9	—	—	—	1.0	1.0	—	—	—	1.9	4.9	8.7	1.0
Filled and decayed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Decayed, not previously treated, but restorable	8.7	8.7	3.9	10.7	4.9	1.9	—	1.0	1.0	1.9	—	5.8	6.8	3.9	12.6	5.8
Not restorable	1.0	3.9	4.9	1.9	—	—	—	—	—	—	—	1.9	4.9	2.9	2.9	1.0
Missing	47.6	32.0	49.4	21.4	6.8	2.9	3.9	3.9	1.0	1.0	4.9	7.8	23.3	43.6	31.1	52.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 103

BASIS FOR FIGURE 6-2

(III) Those from the North who attend for a regular check-up, adults aged 16-34, with some natural teeth

Those from the North who attend for a regular check-up, adults aged 16-34, with some natural teeth																		
Upper Jaw																		
Condition of tooth	Left									Right								
	Molars			Premolars			Can- line	Incisors			Can- line	Premolars			Molars			
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
Sound and untreated	% 16.7	% 7.1	% 3.6	% 29.8	% 34.5	% 72.5	% 61.8	% 65.4	% 70.2	% 53.5	% 76.1	% 34.5	% 23.8	% 3.6	% 4.8	% 13.1		
Crowned or bridged	—	—	—	—	—	—	2.4	3.6	1.2	6.0	—	—	—	—	—	—		
Filled, otherwise sound	31.0	72.6	45.1	44.0	46.4	15.5	26.2	22.6	19.0	29.8	13.1	50.0	50.0	59.4	68.9	23.8		
Filled and decayed	2.4	6.0	4.8	2.4	3.6	3.6	2.4	2.4	3.6	—	2.4	2.4	4.8	3.6	6.0	2.4		
Decayed, not previously treated, but restorable	2.4	—	3.6	3.6	3.6	6.0	1.2	—	2.4	1.2	3.6	1.2	1.2	2.4	3.6	2.4		
Not restorable	—	—	—	—	—	—	1.2	—	—	—	—	—	—	—	1.2	—		
Missing	47.5	14.3	42.9	20.2	11.9	2.4	4.8	6.0	3.6	9.5	4.8	11.9	20.2	31.0	15.5	58.3		
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

Base = 84

BASIS FOR FIGURE 6-2

(III) Those from the North who attend for a regular check-up, adults aged 16-34, with some natural teeth

Condition of tooth		Those from the North who attend for a regular check-up, adults aged 16-34, with some natural teeth											
		Lower jaw						Right					
		Left			Incisors			Canine			Premolars		
		Molars			Canine			Incisors			Canine		
		8	7	6	5	4	3	2	1	1	2	3	4
		%	%	%	%	%	%	%	%	%	%	%	%
Sound and untreated		17.9	7.1	3.6	31.0	52.4	94.0	90.4	95.2	95.2	95.2	91.6	57.2
Crowned or bridged		—	—	—	—	—	—	1.2	—	—	—	—	—
Filled, otherwise sound		27.4	65.5	48.8	45.1	34.5	4.8	6.0	4.8	4.8	3.6	6.0	34.5
Filled and decayed		1.2	4.8	7.1	4.8	4.8	1.2	—	—	—	—	—	1.2
Decayed, not previously treated, but restorable		—	1.2	1.2	3.6	1.2	—	—	—	—	1.2	2.4	—
Not restorable		—	—	—	—	—	—	—	—	—	—	—	—
Missing		55.5	21.4	39.3	15.5	7.1	—	2.4	—	—	—	—	7.1
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 84

BASIS FOR FIGURE 6.2

(17) Those from the North who attend only when having trouble, adults aged 16-34, with some natural teeth

Those from the North who attend only when having trouble, adults aged 16-34, with some natural teeth																
Upper Jaw																
Condition of tooth	Left								Right							
	Molars			Premolars			Can-line	Incisors			Can-line	Premolars			Molars	
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Sound and untreated	% 27.4	% 30.3	% 12.3	% 50.9	% 50.1	% 87.9	% 66.0	% 79.3	% 72.6	% 70.7	% 83.1	% 51.1	% 45.4	% 13.2	% 26.4	% 32.1
Crowned or bridged	—	—	—	—	—	—	—	—	0.9	—	—	—	—	—	—	—
Filled, otherwise sound	12.3	19.8	21.7	14.2	15.1	0.9	4.7	5.7	5.7	5.7	1.9	16.0	17.9	20.8	29.3	8.5
Filled and decayed	—	7.5	7.5	—	—	0.9	0.9	0.9	1.9	4.7	—	0.9	0.9	8.5	1.9	2.8
Decayed, not previously treated, but restorable	16.0	17.9	10.4	9.4	9.4	2.8	14.2	4.7	8.5	6.6	7.5	7.5	8.5	8.5	22.6	10.4
Not restorable	1.9	2.8	1.9	1.9	2.8	0.9	—	—	—	—	—	2.8	2.8	3.8	1.9	0.9
Missing	42.4	21.7	46.2	23.6	22.6	6.6	14.2	9.4	10.4	12.3	7.5	21.7	24.5	45.2	17.9	45.3
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 106

BASIS FOR FIGURE 6-2

(iv) Those from the North who attend only when having trouble, adults aged 16-34, with some natural teeth

Those from the North who attend only when having trouble, adults aged 16-34, with some natural teeth																		
Lower Jaw																		
Condition of tooth	Left									Right								
	Molars			Premolars			Can-ine	Incisors			Can-ine	Premolars			Molars			
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
Sound and untreated	% 32.1	% 22.6	% 9.4	% 47.1	% 77.3	% 93.4	% 97.2	% 96.3	% 97.2	% 96.3	% 90.6	% 78.4	% 55.7	% 10.4	% 21.7	% 24.5		
Crowned or bridged	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Filled, otherwise sound	5.7	20.8	12.3	17.0	9.4	—	0.9	1.9	0.9	0.9	0.9	7.5	11.3	17.9	19.8	7.5		
Filled and decayed	1.9	9.4	8.5	3.8	—	1.9	—	—	—	0.9	—	2.8	2.8	1.9	2.8	—		
Decayed, not previously treated, but restorable	7.5	12.3	3.8	6.6	5.7	3.8	1.9	0.9	1.9	1.9	6.6	3.8	6.6	3.8	19.8	11.3		
Not restorable	0.9	2.8	3.8	—	1.9	—	—	—	—	—	—	0.9	1.9	4.7	1.9	1.9		
Missing	51.9	32.1	62.2	25.5	5.7	0.9	—	0.9	—	—	1.9	6.6	21.7	61.3	34.0	54.8		
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

Base = 106

BASIS FOR FIGURE 6.3

(d) Those from London and the South East who attend for a regular check-up, adults aged 35 or more, with some natural teeth

Condition of tooth	Those from London and the South East who attend for a regular check-up, adults aged 35 or more, with some natural teeth																	
	Upper Jaw																	
	Left									Right								
	Molars			Premolars			Can- line	Incisors			Can- ine	Premolars			Molars			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8			
% 4.1	% 4.1	% 1.4	% 17.2	% 22.1	% 46.9	% 40.7	% 44.1	% 45.4	% 45.5	% 48.3	% 15.2	% 16.6	% 2.1	% 2.8	% 5.5			
—	—	1.4	2.8	1.4	0.7	1.4	2.8	2.8	5.5	0.7	1.4	1.4	—	—	0.7			
36.6	53.9	35.9	35.2	33.1	25.5	26.2	24.8	27.6	23.4	31.7	40.6	37.2	44.1	52.4	33.1			
1.4	4.8	4.1	2.1	2.1	5.5	3.4	2.8	1.4	2.8	3.4	2.8	0.7	2.8	4.1	2.1			
—	—	0.7	0.7	2.1	2.1	—	—	—	0.7	—	0.7	—	—	1.4	—			
—	—	—	—	0.7	—	—	—	—	—	0.7	0.7	—	—	—	—			
57.9	37.2	56.5	42.0	38.5	19.3	28.3	25.5	22.1	22.8	14.5	38.6	44.1	50.3	39.3	58.6			
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			

Base = 145

BASIS FOR FIGURE 6-3

(1) Those from London and the South East who attend for a regular check-up, adults aged 35 or more, with some natural teeth

Condition of tooth		Lower Jaw												Right											
		Left						Incisors						Canine						Premolars					
		Molars		Premolars		Canine		Incisors		Canine		Incisors		Canine		Premolars		Molars		Premolars		Molars		Premolars	
		8	7	6	5	4	3	2	1	1	1	1	1	2	3	4	5	6	7	8					
Sound and untreated	%	5.5	5.5	2.8	24.8	44.9	86.1	88.3	87.5	86.2	90.3	86.2	90.3	83.4	37.2	20.7	3.4	4.1							
Crowned or bridged	—	—	—	1.4	0.7	—	—	—	0.7	0.7	—	—	—	—	—	0.7	—	2.1	—	—					
Filled, otherwise sound	42.8	48.3	32.4	40.0	40.7	8.3	3.4	2.1	2.1	3.4	1.4	1.4	1.4	10.3	42.0	46.9	23.4	51.0	46.2						
Filled and decayed	4.1	2.1	2.1	1.4	3.4	2.8	—	—	—	0.7	0.7	—	—	1.4	2.8	0.7	3.4	2.8	1.4						
Decayed, not previously treated, but restorable	0.7	—	0.7	0.7	0.7	1.4	0.7	—	—	—	—	—	—	1.4	2.1	0.7	—	—	—						
Not restorable	0.7	—	—	—	—	—	0.7	—	—	—	—	—	—	0.7	—	0.7	—	—	1.4						
Missing	46.2	44.1	60.6	32.4	10.3	0.7	7.6	9.7	9.7	9.0	7.6	2.8	2.8	100.0	100.0	100.0	100.0	67.7	46.9						
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0						

Base = 145

BASIS FOR FIGURE 6.3

(ii) Those from London and the South East who attend only when having trouble, adults aged 35 or more, with some natural teeth

Condition of tooth	Those from London and the South East who attend only when having trouble, adults aged 35 or more, with some natural teeth															
	Upper Jaw															
	Left								Right							
Molars	Premolars	Can-line	Incisors				Can-line	Premolars	Molars	Can-line	Premolars	Molars	Can-line	Premolars	Molars	
			8	7	6	5										4
% 11.4	% 7.3	% 8.8	% 19.7	% 21.2	% 43.0	% 39.4	% 45.0	% 45.6	% 41.0	% 46.2	% 22.3	% 23.8	% 7.3	% 11.4	% 14.0	
—	—	—	—	—	—	0.5	1.5	2.6	1.0	—	—	—	—	—	—	
13.0	18.1	7.8	8.8	9.3	4.7	5.7	5.2	3.6	6.7	6.7	6.7	7.8	9.8	15.0	8.8	
2.6	2.6	1.0	1.6	1.0	3.6	1.0	2.1	0.5	3.6	3.1	3.1	0.5	1.6	2.6	3.1	
5.7	6.7	2.1	2.6	2.6	7.3	8.3	7.3	9.8	9.3	6.7	3.6	3.6	2.1	4.7	3.6	
5.7	2.6	1.6	5.2	2.6	3.1	2.6	1.6	1.6	1.6	2.1	2.6	3.6	3.6	2.1	2.1	
61.6	62.7	78.7	62.1	63.3	38.3	42.5	37.3	36.3	36.8	35.2	61.7	60.7	75.6	62.7	68.4	
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Base = 193

BASIS FOR FIGURE 6-3

(ii) Those from London and the South East who attend only when having trouble, adults aged 35 or more, with some natural teeth

Those from London and the South East who attend only when having trouble, adults aged 35 or more, with some natural teeth																	
Condition of tooth		Lower Jaw															
		Left							Right								
		Molars		Premolars		Can-line	Incisors		Can-line	Premolars		Molars					
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		
13.5	8.3	6.2	28.5	54.9	84.0	86.5	87.6	87.1	86.5	82.9	50.3	31.1	6.7	11.4	11.4		
—	—	—	—	0.5	—	—	—	—	—	—	—	—	—	—	—		
9.8	15.0	8.3	17.1	11.9	2.6	1.0	—	0.5	1.0	5.7	11.4	12.4	9.8	16.1	11.9		
1.6	2.6	2.1	2.1	0.5	—	—	—	—	—	—	1.0	2.1	2.6	3.1	2.6		
5.2	3.1	2.6	4.1	7.3	4.1	2.1	1.0	2.1	2.1	4.7	7.8	4.7	2.6	1.6	3.6		
4.7	4.1	1.6	3.6	4.7	3.6	2.1	1.6	1.0	2.1	2.6	4.1	6.2	1.6	2.1	3.6		
65.2	66.9	79.2	44.6	20.2	5.7	8.3	9.8	9.3	8.3	4.1	25.4	43.5	76.7	65.7	66.9		
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

Base = 193

BASIS FOR FIGURE 6.3

(iii) Those from the North who attend for a regular check-up, adults aged 35 or more, with some natural teeth

Condition of tooth		Those from the North who attend for a regular check-up, adults aged 35 or more, with some natural teeth													
		Upper Jaw							Right						
		Left				Incisors			Canine			Premolars			
		Molars		Premolars		Canine		Incisors		Canine		Premolars		Molars	
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
6-6	1.3	1.3	13.2	14.5	40.3	31.6	44.7	48.7	39.5	50.0	19.7	9.2	1.3	1.3	7.9
—	—	—	—	—	1.3	—	2.6	—	1.3	1.3	—	—	—	—	—
28.9	51.4	18.4	28.9	44.8	25.0	32.9	26.3	23.7	34.2	22.4	40.8	40.8	26.3	52.6	31.6
3.9	2.6	3.9	5.3	3.9	7.9	7.9	—	6.6	6.6	5.3	5.3	3.9	1.3	7.9	3.9
2.6	—	—	—	2.6	6.6	3.9	3.9	3.9	—	2.6	2.6	3.9	—	—	1.3
—	—	—	1.3	—	—	—	—	—	—	—	—	—	—	—	—
58.0	44.7	76.4	51.3	34.2	18.4	23.7	22.4	17.1	18.4	18.4	31.6	42.2	71.1	38.2	55.3
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 76

BASIS FOR FIGURE 6.3

(III) Those from the North who attend for a regular check-up, adults aged 35 or more, with some natural teeth

Those from the North who attend for a regular check-up, adults aged 35 or more, with some natural teeth																
Lower Jaw																
Condition of tooth	Left							Right								
	Molars			Premolars		Can-ine	Incisors			Can-ine	Premolars		Molars			
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Sound and untreated	% 3.9	% 3.9	% 1.3	% 13.8	% 32.9	% 84.3	% 92.1	% 94.8	% 93.5	% 94.8	% 84.3	% 50.1	% 14.5	% 3.9	% 1.3	% 3.9
Crowned or bridged	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	1.3
Filled, otherwise sound	26.3	36.8	18.4	39.5	51.4	9.2	5.3	1.3	2.6	1.3	11.8	35.5	38.2	18.4	35.5	32.9
Filled and decayed	5.3	5.3	5.3	6.6	1.3	3.9	—	—	—	—	1.3	1.3	3.9	1.3	3.9	3.9
Decayed, not previously treated, but restorable	1.3	—	—	1.3	2.6	1.3	—	—	—	1.3	1.3	2.6	2.6	—	—	—
Not restorable	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	—
Missing	63.2	54.0	75.0	36.8	11.8	1.3	2.6	3.9	3.9	2.6	1.3	10.5	40.8	73.8	58.0	59.3
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 76

BASIS FOR FIGURE 6.3

(iv) Those from the North who attend only when having trouble, adults aged 35 or more, with some natural teeth

Those from the North who attended only when having trouble, adults aged 35 or more, with some natural teeth																			
Upper Jaw																			
Condition of tooth	Left										Right								
	Molars			Premolars			Can-line	Incisors			Can-line	Premolars			Molars				
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8			
Sound and untreated	%	10.5	7.3	4.0	20.2	37.1	35.5	39.5	42.7	36.3	44.4	21.8	17.7	6.5	9.7	12.1			
Crowned or bridged	%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Filled, otherwise sound	%	12.9	11.3	4.8	4.0	4.8	3.2	4.8	4.0	5.6	5.6	5.6	3.2	6.5	9.7	9.7			
Filled and decayed	%	3.2	1.6	1.6	2.4	0.8	0.8	—	0.8	3.2	1.6	—	1.6	0.8	1.6	1.6			
Decayed, not previously treated, but restorable	%	5.6	6.5	4.8	6.5	5.6	12.1	9.7	9.7	7.3	8.1	8.1	4.8	5.6	4.0	8.9			
Not restorable	%	4.0	4.8	3.2	2.4	1.6	2.4	2.4	0.8	—	0.8	0.8	—	1.6	1.6	0.8			
Missing	%	63.8	68.5	81.6	64.5	67.0	44.4	47.6	44.4	42.8	47.6	41.1	66.2	70.3	80.6	68.5			
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			

Base = 124

BASIS FOR FIGURE 6.3

(iv) Those from the North who attend only when having trouble, adults aged 35 or more, with some natural teeth

Condition of tooth	Those from the North who attend only when having trouble, adults aged 35 or more, with some natural teeth														
	Lower Jaw														
	Left								Right						
	Molars			Premolars			Canine	Incisors			Canine	Premolars			Molars
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
9.7	9.7	4.0	35.5	49.2	80.6	83.1	89.6	89.6	83.1	74.2	43.6	25.0	4.0	8.1	12.1
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3.2	9.7	4.8	8.9	8.9	1.6	2.4	0.8	—	2.4	4.8	4.8	8.1	3.2	8.9	6.5
4.0	1.6	2.4	0.8	3.2	0.8	0.8	—	0.8	—	0.8	0.8	2.4	1.6	1.6	1.6
8.1	2.4	1.6	6.5	8.9	7.3	6.5	3.2	3.2	4.0	8.1	12.1	5.6	1.6	4.8	6.5
1.6	1.6	0.8	3.2	1.6	1.6	1.6	1.6	1.6	3.2	1.6	4.8	3.2	—	1.6	2.4
73.4	75.0	86.4	45.1	28.2	8.1	5.6	4.8	4.8	7.3	10.5	33.9	55.7	89.6	75.0	70.9
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 124

BASIS FOR FIGURE 6.4

(1) Those from London and the South East, who attend for a regular check-up, all adults aged 16-34

Those from London and the South East, who attend for a regular check-up, all adults aged 16-34																										
Upper Jaw																										
Condition of tooth	Left												Right													
	Molars				Premolars				Can-ine	Incisors				Can-ine	Premolars				Molars							
	8	7	6	%	5	4	3	%	2	1	1	2	3	4	5	6	7	8	%	5	4	3	4	5	6	7
Sound and untreated	11.2	5.3	2.6	18.4	73.7	55.9	65.8	63.9	59.2	72.4	19.7	20.4	1.3	2.0	11.2											
Crowned or bridged	—	—	0.7	0.7	—	—	1.3	0.7	2.6	0.7	—	—	—	—	—	—										
Filled, otherwise sound	34.9	80.2	61.2	65.1	66.4	17.1	30.9	24.3	23.0	28.9	17.1	64.5	61.8	71.0	82.9	25.7										
Filled and decayed	1.3	2.6	3.9	1.3	—	1.3	1.3	1.3	2.6	3.3	3.3	2.0	2.0	2.0	3.3	1.3										
Decayed, not previously treated, but restorable	0.7	0.7	—	0.7	—	2.6	2.0	1.3	0.7	0.7	2.6	1.3	1.3	0.7	1.3	0.7										
Not restorable	—	0.7	—	0.7	—	—	—	—	—	—	—	—	0.7	—	—	—										
Missing	51.9	10.5	29.6	11.8	14.5	5.3	8.6	6.6	7.2	7.2	4.6	11.8	14.5	25.0	10.5	61.1										
Edentulous	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0										

Base = 152

BASIS FOR FIGURE 6.4

(i) Those from London and the South East, who attend for a regular check-up, all adults aged 16-34

Condition of tooth		Lower Jaw															
		Left							Right								
		Molars		Premolars		Can- line		Incisors			Can- line		Premolars		Molars		
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
% 12.5	% 1.3	% 0.7	% 23.0	% 55.9	% 92.1	% 94.6	% 93.4	% 94.1	% 92.7	% 92.7	% 54.6	% 25.0	% 0.7	% 3.3	% 9.2		
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.7	—
38.2	77.7	56.5	56.5	34.9	4.6	3.3	2.6	2.6	2.0	5.3	38.8	53.5	55.3	75.6	40.1		
0.7	3.3	5.3	0.7	2.6	0.7	0.7	—	—	0.7	—	1.3	0.7	2.6	1.3	—		
1.3	1.3	0.7	0.7	1.3	1.3	0.7	0.7	—	2.0	0.7	—	—	—	—	—	0.7	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
47.3	16.4	36.8	19.1	5.3	1.3	0.7	3.3	3.3	2.6	1.3	5.3	15.8	41.4	18.4	50.7		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 152

BASIS FOR FIGURE 6.4

(B) Those from London and the South East, who attend only when having trouble, all adults aged 16-34

Those from London and the South East, who attend only when having trouble, all adults aged 16-34																		
Upper Jaw																		
Condition of tooth	Left									Right								
	Molars		Premolars		Can-line	Incisors			Can-line	Premolars		Can-line	Molars					
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
Sound and untreated	% 20.5	% 14.9	% 5.6	% 33.7	% 40.3	% 67.4	% 62.6	% 64.4	% 65.7	% 58.9	% 73.8	% 39.3	% 30.8	% 8.4	% 13.1	% 19.7		
Crowned or bridged	—	—	—	—	—	—	1.0	1.0	—	—	1.0	—	—	—	—	—		
Filled, otherwise sound	14.1	42.1	40.3	27.2	25.2	8.4	9.3	11.2	12.1	14.1	11.2	25.2	27.9	39.3	46.8	14.1		
Filled and decayed	1.0	2.8	5.6	1.0	1.0	1.8	2.8	3.8	2.8	1.8	—	1.0	3.8	2.8	1.0	1.0		
Decayed, not previously treated, but restorable	6.6	7.5	2.8	1.8	5.6	2.8	4.7	2.8	1.8	2.8	1.8	2.8	3.8	3.8	11.2	2.8		
Not restorable	2.8	4.7	1.8	2.8	2.8	1.8	1.8	1.0	1.8	1.0	1.0	2.8	2.8	1.8	1.8	1.8		
Missing	51.3	24.3	40.2	29.8	21.4	14.1	14.1	12.1	12.1	17.7	7.5	25.2	27.2	40.2	22.4	56.9		
Ectodermalous	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7		
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

Base — 107

BASIS FOR FIGURE 6.4
(4) Those from London and the South East, who attend only when having trouble, all adults aged 16-34

Condition of tooth	Those from London and the South East, who attend only when having trouble, all adults aged 16-34																	
	Lower Jaw																	
	Left								Right									
	Molars				Premolars				Can-ine	Incisors				Can-ine	Premolars			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8			
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		
22.4	10.2	3.8	37.4	70.1	86.1	88.7	88.7	91.5	90.7	86.9	67.3	39.3	7.5	12.1	22.4			
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
16.8	39.3	33.7	23.4	14.9	5.6	3.8	1.8	1.8	2.8	4.7	14.1	21.5	35.6	31.0	15.8			
1.8	3.8	2.8	2.8	—	—	—	1.0	1.0	—	—	—	1.8	4.7	8.4	1.0			
8.4	8.4	3.8	10.2	4.7	1.8	—	1.0	1.0	1.8	—	5.6	6.6	3.8	12.1	5.6			
1.0	3.8	4.7	1.8	—	—	—	—	—	—	—	1.8	4.7	2.8	2.8	1.0			
45.9	30.8	47.5	20.7	6.6	2.8	3.8	3.8	1.0	1.0	4.7	7.5	22.4	41.9	29.9	50.5			
3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7			
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			

Base = 107

BASIS FOR FIGURE 6.4

(iii) Those from the North, who attend for a regular check-up, all adults aged 16-34

Those from the North, who attend for a regular check-up, all adults aged 16-34																	
Upper Jaw																	
Condition of tooth	Left										Right						
	Molars			Premolars			Can-line		Incisors		Can-line		Premolars		Molars		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
Sound and untreated	% 15.9	% 6.8	% 3.4	% 28.5	% 33.0	% 69.3	% 59.1	% 62.5	% 67.2	% 51.2	% 72.7	% 33.0	% 22.7	% 3.4	% 4.6	% 12.5	
Crowned or bridged	—	—	—	—	—	—	2.3	3.4	1.1	5.7	—	—	—	—	—	—	
Filled, otherwise sound	29.6	69.3	43.1	42.0	44.3	14.8	25.0	21.6	18.1	23.4	12.5	47.7	47.8	56.8	65.9	22.7	
Filled and decayed	2.3	5.7	4.6	2.3	3.4	3.4	2.3	2.3	3.4	—	2.3	2.3	4.6	3.4	5.7	2.3	
Decayed, not previously treated, but restorable	2.3	—	3.4	3.4	3.4	5.7	1.1	—	2.3	1.1	3.4	1.1	1.1	2.3	3.4	2.3	
Not restorable	—	—	—	—	—	—	1.1	—	—	—	—	—	—	—	1.1	—	
Missing	45.4	13.7	41.0	19.3	11.4	2.3	4.6	5.7	3.4	9.1	4.6	11.4	19.3	29.6	14.8	55.7	
Edentulous	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Base = 88

BASIS FOR FIGURE 6.4
(iii) Those from the North, who attend for a regular check-up, all adults aged 16-34

Condition of tooth	Lower Jaw																		
	Left								Right										
	Molars				Premolars				Can-ine	Incisors				Can-ine	Premolars				Molars
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8			
	% 17.1	% 6.8	% 3.4	% 20.6	% 50.0	% 89.8	% 86.4	% 90.9	% 90.9	% 91.0	% 87.5	% 54.6	% 35.2	% 5.7	% 5.7	% 13.6			
Sound and untreated	—	—	—	—	—	—	1.1	—	—	—	—	—	—	—	—	—			
Crowned and bridged	26.2	62.6	46.7	43.1	33.0	4.6	5.7	4.6	4.6	3.4	5.7	33.0	44.4	48.9	62.5	19.3			
Filled, otherwise sound	1.1	4.6	6.8	4.6	4.6	1.1	—	—	—	—	—	1.1	3.4	5.7	5.7	2.3			
Filled and decayed	—	1.1	1.1	3.4	1.1	—	—	—	—	1.1	2.3	—	—	—	2.3	1.1			
Decayed, not previously treated, but restorable	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Not restorable	51.1	20.4	37.5	14.8	6.8	—	2.3	—	—	—	—	6.8	12.5	35.2	19.3	59.2			
Missing	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5			
Edentulous	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			

Base = 88

BASIS FOR FIGURE 6.4

(iv) Those from the North, who attend only when having trouble, all adults aged 16-34

Condition of tooth	Those from the North, who attend only when having trouble, all adults aged 16-34															
	Upper Jaw															
	Left								Right							
	Molars		Premolars		Canine		Incisors		Canine		Premolars		Molars			
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Sound and untreated	23.6	26.1	10.6	43.9	43.2	75.7	56.9	68.3	62.6	60.9	71.6	44.0	39.1	11.4	22.8	27.7
Crowned or bridged	—	—	—	—	—	—	—	—	0.8	—	—	—	—	—	—	—
Filled, otherwise sound	10.6	17.1	18.7	12.2	13.0	0.8	4.1	4.9	4.9	4.9	1.6	13.8	15.4	17.9	25.3	7.3
Filled and decayed	—	6.5	6.5	—	—	0.8	0.8	0.8	1.6	4.1	—	0.8	0.8	7.3	1.6	2.4
Decayed, not previously treated, but restorable	13.8	15.4	9.0	8.1	8.1	2.4	12.2	4.1	7.3	5.7	6.5	6.5	7.3	7.3	19.5	9.0
Not restorable	1.6	2.4	1.6	1.6	2.4	0.8	—	—	—	—	—	2.4	2.4	3.3	1.6	0.8
Missing	36.6	18.7	39.8	20.4	19.5	5.7	12.2	8.1	9.0	10.6	6.5	18.7	21.2	39.0	15.4	39.0
Edentulous	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 123

BASIS FOR FIGURE 6.4

(iv) Those from the North, who attend only when having trouble, all adults aged 16-34

Condition of tooth	Those from the North, who attend only when having trouble, all adults aged 16-34															
	Lower Jaw															
	Left								Right							
	Molars		Premolars		Can-ine		Incisors		Can-ine		Premolars		Molars			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
% 27.7	% 19.5	% 8.1	% 40.5	% 66.7	% 80.5	% 83.8	% 83.0	% 83.8	% 83.0	% 78.1	% 67.5	% 48.1	% 9.0	% 18.7	% 21.1	
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
4.9	17.9	10.6	14.7	8.1	—	0.8	1.6	0.8	0.8	0.8	6.5	9.7	15.4	17.1	6.5	
1.6	8.1	7.3	3.3	—	1.6	—	—	—	0.8	—	2.4	2.4	1.6	2.4	—	
6.5	10.6	3.3	5.7	4.9	3.3	1.6	0.8	1.6	1.6	5.7	3.3	5.7	3.3	17.1	9.7	
0.8	2.4	3.3	—	1.6	—	—	—	—	—	—	0.8	1.6	4.1	1.6	1.6	
44.7	27.7	53.6	22.0	4.9	0.8	—	0.8	—	—	1.6	5.7	18.7	52.8	29.3	47.3	
13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Base = 123

BASIS FOR FIGURE 7.1

(i) Calculus—adults aged 16-34, with some natural teeth

Gum condition		Adults aged 16-34, with some natural teeth																	
		Upper Jaw									Lower Jaw								
		Left				Right					Left				Right				
		Molars		Premolars		Can-line		Incisors			Can-line		Premolars		Can-line		Incisors		
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
	%		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With calculus	4.9	10.3	9.2	3.3	2.5	3.4	3.6	3.6	3.6	3.4	3.2	3.2	2.2	2.8	7.1	9.8	3.7		
Without calculus	47.8	72.8	52.4	74.4	80.5	90.2	87.1	89.0	89.0	86.6	91.3	79.3	76.4	56.0	73.8	43.5			
Tooth missing	47.3	16.9	38.4	22.3	17.0	6.4	9.3	7.4	7.6	10.2	5.5	18.5	20.8	36.9	16.4	52.8			
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Gum condition		Lower Jaw																	
		Upper Jaw									Lower Jaw								
		Left				Right					Left				Right				
		Molars		Premolars		Can-line		Incisors			Can-line		Premolars		Can-line		Incisors		
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
	%		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With calculus	2.5	4.7	4.3	7.1	11.0	33.5	48.9	55.4	56.4	49.1	33.6	12.0	6.6	5.3	5.0	2.1			
Without calculus	48.6	69.6	46.8	72.9	82.4	65.2	49.4	42.8	42.4	49.7	64.7	81.1	75.8	45.1	69.0	46.2			
Tooth missing	48.9	25.7	48.9	20.0	6.6	1.3	1.7	1.8	1.2	1.2	1.7	6.9	17.6	49.6	26.0	51.7			
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			

Base = 816

BASIS FOR FIGURE 7.1

(10) Gingivitis—adults aged 16-34, with some natural teeth

Gum condition		Adults aged 16-34, with some natural teeth															
		Upper Jaw								Lower Jaw							
		Left				Right				Left				Right			
		Molars		Premolars		Can- line		Incisors		Can- line		Incisors		Premolars		Molars	
With gingivitis	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	7-6	12-5	11-2	9-2	10-4	11-6	12-6	12-1	12-7	14-1	12-5	9-1	8-3	9-4	10-3	4-7	
	45-1	70-6	50-4	68-5	72-6	82-0	78-1	80-5	79-7	75-7	82-0	72-4	70-9	53-7	73-3	42-5	
	47-3	16-9	38-4	22-3	17-0	6-4	9-3	7-4	7-6	10-2	5-5	18-5	20-8	36-9	16-4	32-8	
Without gingivitis	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0
	Tooth missing																
Tooth missing																	

Base = 816

BASIS FOR FIGURE 7.1
(III) Pocketing—adults aged 16-34, with some natural teeth

		Adults aged 16-34, with some natural teeth															
		Upper Jaw															
		Left				Right											
Gum condition		Molars		Premolars		Can- line	Incisors			Can- line	Premolars		Molars				
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
With pocketing Without pocketing Tooth missing	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	1-6	3-7	3-4	2-5	3-2	2-9	5-1	3-4	3-9	5-3	3-7	2-7	2-6	2-3	3-2	1-0	
	51-1	79-4	58-2	75-2	79-8	90-7	85-6	89-2	88-5	84-5	90-8	78-8	76-6	60-8	80-4	46-2	
	47-3	16-9	38-4	22-3	17-0	6-4	9-3	7-4	7-6	10-2	5-5	18-5	20-8	36-9	16-4	52-8	
	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0
		Lower Jaw															
Gum condition		Molars		Premolars		Can- line	Incisors			Can- line	Premolars		Molars				
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
With pocketing Without pocketing Tooth missing	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	2-5	2-1	1-7	2-5	2-9	4-7	6-1	6-0	6-0	5-8	4-3	2-8	2-2	1-8	2-8	1-3	
	48-6	72-2	49-4	77-5	90-5	94-0	92-2	92-2	92-8	93-0	94-0	90-3	80-2	48-6	71-2	47-0	
	48-9	25-7	48-9	20-0	6-6	1-3	1-7	1-8	1-2	1-2	1-7	6-9	17-6	49-6	26-0	51-7	
	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0

Base = 816

BASIS FOR FIGURE 7.1
(iv) Recession—adults aged 16-34, with some natural teeth

Gum condition		Adults aged 16-34, with some natural teeth																	
		Upper Jaw									Lower Jaw								
		Left						Right						Left					
		Molars			Premolars			Can-ine	Incisors			Can-ine	Premolars			Molars	Premolars		
		8	7	6	5	4	3		2	1	1	2	3	4	5	6	7	8	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With recession	0.1	0.1	1.3	0.5	1.6	3.2	1.3	1.0	0.9	0.7	2.5	1.7	1.1	0.9	1.0	0.1			
Without recession	52.6	83.0	60.3	77.2	81.4	90.4	89.4	91.6	91.5	89.1	92.0	79.8	78.1	62.2	82.6	47.1			
Tooth missing	47.3	16.9	38.4	22.3	17.0	6.4	9.3	7.4	7.6	10.2	5.5	18.5	20.8	36.9	16.4	52.8			
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Gum condition		Adults aged 16-34, with some natural teeth																	
		Upper Jaw									Lower Jaw								
		Left						Right						Left					
		Molars			Premolars			Can-ine	Incisors			Can-ine	Premolars			Molars	Premolars		
		8	7	6	5	4	3		2	1	1	2	3	4	5	6	7	8	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With recession	0.1	0.5	0.6	0.6	2.2	2.7	2.7	2.1	2.7	2.8	2.6	2.2	1.6	1.2	0.4	—	0.2		
Without recession	51.0	73.8	50.5	79.4	91.2	96.0	96.2	95.5	96.0	96.2	96.1	96.2	91.5	81.2	50.0	74.0	48.1		
Tooth missing	48.9	25.7	48.9	20.0	6.6	1.3	1.7	1.8	1.2	1.2	1.7	6.9	17.6	49.6	26.0	51.7			
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		

Base = 816

BASIS FOR FIGURE 7.2

(1) Calculus—adults aged 35 or more, with some natural teeth

Gum condition		Adults aged 35 or more, with some natural teeth															
		Upper Jaw								Lower Jaw							
		Left				Right				Left				Right			
		Molars		Premolars		Can-line		Incisors		Can-line		Premolars		Incisors		Can-line	
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With calculus	8.0	12.9	7.4	6.2	5.0	7.7	6.7	6.8	7.6	6.8	8.2	4.3	5.0	7.1	12.0	7.5	
Without calculus	32.4	31.9	19.0	37.6	40.8	61.9	57.0	61.2	62.0	59.7	62.9	43.8	37.5	23.1	33.2	28.9	
Tooth missing	59.6	55.2	73.6	56.2	54.2	30.4	36.3	32.0	30.4	33.5	28.9	51.9	57.5	69.8	54.8	63.6	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
		Lower Jaw															
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
		7.5	8.5	6.2	15.3	26.2	28.7	71.0	73.5	73.2	71.3	57.5	25.2	15.9	5.8	8.8	6.3
		31.0	31.9	18.4	43.5	54.3	37.3	22.5	18.5	18.5	22.9	37.9	32.9	44.6	18.3	31.7	32.7
		61.5	59.6	75.4	41.2	19.5	4.0	6.5	8.0	8.3	5.8	4.6	21.9	39.5	75.9	59.5	61.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 878

BASIS FOR FIGURE 7.2

(II) Gingivitis—adults aged 35 or more, with some natural teeth

		Adults aged 35 or more, with some natural teeth															
		Upper Jaw															
		Left				Right											
		Molars		Premolars		Canine		Incisors		Canine		Premolars		Molars			
Gum condition		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	With gingivitis	7-6	10-3	6-5	8-9	9-7	16-3	13-3	12-9	14-4	13-8	16-2	8-5	8-4	6-9	9-1	6-5
	Without gingivitis	32-8	34-5	19-9	34-9	36-1	53-3	50-4	55-1	55-2	52-7	54-9	39-6	34-1	23-3	36-1	29-9
	Tooth missing	59-6	55-2	73-6	56-2	54-2	30-4	36-3	32-0	30-4	33-5	28-9	51-9	57-5	69-8	54-8	63-6
		100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0
		Lower Jaw															
Gum condition		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	With gingivitis	8-3	10-0	4-9	12-5	18-8	31-5	33-6	35-5	35-2	35-6	32-7	19-0	13-3	4-1	8-8	6-5
	Without gingivitis	30-2	30-4	19-7	46-3	61-7	64-5	49-9	56-5	56-5	58-6	62-7	59-1	47-2	20-0	31-7	32-5
	Tooth missing	61-5	59-6	75-4	41-2	19-5	4-0	6-5	8-0	8-3	5-8	4-6	21-9	39-5	75-9	59-5	61-0
		100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0

Base = 878

BASIS FOR FIGURE 7.2

(iii) Pocketing—adults aged 35 or more, with some natural teeth

Gum condition		Adults aged 35 or more, with some natural teeth																	
		Upper Jaw																	
		Left									Right								
		Molars			Premolars			Can-line	Incisors			Can-line	Premolars			Molars			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8				
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		
5.6	7.9	4.7	5.7	4.8	9.5	8.9	8.1	8.2	8.2	10.4	5.8	4.1	4.8	7.3	6.4				
34.8	36.9	21.7	38.1	41.0	60.1	54.8	59.9	61.4	58.3	60.7	42.3	38.4	25.4	37.9	30.0				
59.6	55.2	73.6	56.2	54.2	30.4	36.3	32.0	30.4	33.5	28.9	51.9	57.5	69.8	54.8	63.6				
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0				
		Lower Jaw																	
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		
5.0	5.5	2.4	7.1	10.9	18.0	18.0	18.5	18.6	18.5	17.9	9.9	7.7	2.3	4.4	4.3				
33.5	34.9	22.2	51.7	69.6	78.0	75.5	73.5	73.1	75.7	77.5	68.2	52.8	21.8	36.1	34.7				
61.5	59.6	75.4	41.2	19.5	4.0	6.5	8.0	8.3	5.8	4.6	21.9	39.5	75.9	59.5	61.0				
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0				
With pocketing																			
Without pocketing																			
Tooth missing																			

Base = 878

BASIS FOR FIGURE 7.2

(iv) Recession—adults aged 35 or more, with some natural teeth

Gum condition		Adults aged 35 or more, with some natural teeth																			
		Upper Jaw										Lower Jaw									
		Left					Right					Left					Right				
		Molars		Premolars		Cun- line	Incisors		Cun- line	Premolars		Molars		Molars		Premolars		Molars		Premolars	
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8				
Gum condition		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	With recession	3.9	7.5	6.5	6.4	5.8	10.8	4.4	4.3	4.6	4.4	9.2	5.8	6.0	6.0	6.7	3.6				
	Without recession	36.5	37.3	19.9	37.4	40.0	58.8	59.3	63.7	65.0	62.1	61.9	42.3	36.5	24.2	38.5	32.8				
	Tooth missing	59.6	55.2	73.6	56.2	56.2	30.4	36.3	32.0	30.4	33.5	28.9	51.9	57.5	69.8	54.8	63.6				
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0				
		Upper Jaw										Lower Jaw									
Gum condition		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	With recession	2.8	3.9	1.8	8.3	13.4	17.1	16.2	19.1	17.7	16.4	17.9	12.4	9.3	1.4	4.2	2.3				
	Without recession	35.7	36.5	22.8	50.5	67.1	78.9	77.3	72.9	74.0	77.8	77.5	65.7	51.2	22.7	36.3	36.7				
	Tooth missing	61.5	59.6	75.4	41.2	19.5	4.0	6.5	8.0	8.3	5.8	4.6	21.9	39.5	75.9	59.5	61.0				
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0				

Base = 878

CONDITION TOO INFREQUENT TO PRESENT DIAGRAMMATICALLY

(v) The distribution of loose teeth around the mouth, for adults aged 35 or more, with some natural teeth

Gum condition	Adults aged 35 or more, with some natural teeth															
	Upper Jaw															
	Left								Right							
	Molars		Premolars		Can-ine	Incisors			Can-ine	Premolars		Molars				
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With tooth loose	0.3	0.5	0.5	0.6	0.5	0.8	0.6	0.7	0.7	1.0	0.9	0.6	0.3	0.6	0.2	0.3
Without tooth loose	40.1	44.3	25.9	43.2	45.3	68.8	63.1	67.3	68.9	65.5	70.2	47.5	42.2	29.6	45.0	36.1
Tooth missing	59.6	55.2	73.6	56.2	54.2	30.4	36.3	32.0	30.4	33.5	28.9	51.9	57.5	69.8	54.8	63.6
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Lower Jaw																
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With tooth loose	0.2	0.6	0.1	0.7	1.1	1.7	2.5	2.6	2.6	2.2	1.8	1.0	0.9	0.3	0.5	0.3
Without tooth loose	38.3	39.8	24.5	58.1	79.4	94.3	91.0	89.4	89.1	92.0	93.6	77.1	59.6	23.8	40.0	38.7
Tooth missing	61.5	59.6	75.4	41.2	19.5	4.0	6.5	8.0	8.3	5.8	4.6	21.9	39.5	75.9	59.5	61.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

BASIS FOR FIGURE 7.3

(B) Gingivitis—adults aged 16-34, with some natural teeth, who attend for a regular check-up

Gum condition		Adults aged 16-34, with some natural teeth, who attend for a regular check-up															
		Upper Jaw															
		Left								Right							
		Molars		Premolars		Can-line		Incisors		Can-line		Premolars		Molars			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		
5.5	12.6	12.8	7.9	9.0	8.7	9.6	10.4	11.5	12.6	10.1	6.3	5.7	8.7	8.5	3.3		
45.6	75.7	55.5	74.9	77.6	88.0	84.7	84.4	83.6	80.8	85.8	80.9	77.4	64.0	79.8	38.4		
48.9	11.7	31.7	17.2	13.4	3.3	5.7	5.2	4.9	6.6	4.1	12.8	16.9	27.3	11.7	58.3		
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
		Lower Jaw															
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		
6.0	8.5	5.2	4.1	6.8	13.7	18.6	18.9	19.7	18.6	16.4	9.6	6.6	6.3	7.7	5.2		
45.4	72.9	55.2	78.7	88.3	85.8	80.3	79.7	78.9	79.8	82.8	84.4	78.9	50.8	72.1	43.2		
48.6	18.6	39.6	17.2	4.9	0.5	1.1	1.4	1.4	1.6	0.8	6.0	14.5	42.9	20.2	51.6		
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
With gingivitis																	
Without gingivitis																	
Tooth missing																	

Base = 379

BASIS FOR FIGURE 7.3

(iii) Pocketing—adults aged 16-34, with some natural teeth, who attend for a regular check-up

Gum condition		Adults aged 16-34, with some natural teeth, who attend for a regular check-up															
		Upper Jaw															
		Left								Right							
		Molars		Premolars		Can-line		Incisors		Can-line		Premolars		Molars			
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
With pocketing	1-1	3-0	3-0	1-6	2-2	2-5	3-6	2-5	2-5	4-6	2-2	1-4	1-4	2-2	2-5	0-5	
Without pocketing	50-0	85-3	65-3	81-2	84-4	94-2	90-7	92-3	92-6	88-8	93-7	85-8	81-7	70-5	85-8	43-2	
Tooth missing	48-9	11-7	31-7	17-2	13-4	3-3	5-7	5-2	4-9	6-6	4-1	12-8	16-9	27-3	11-7	56-3	
	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	
		Lower Jaw															
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
With pocketing	1-6	1-6	1-1	1-9	1-4	2-2	4-1	2-7	2-7	3-3	2-7	1-1	1-4	1-1	2-2	1-1	
Without pocketing	49-8	79-8	59-3	80-9	93-7	97-3	94-8	95-9	95-9	95-1	96-5	92-9	84-1	56-0	77-6	47-3	
Tooth missing	48-6	18-6	39-6	17-2	4-9	0-5	1-1	1-4	1-4	1-6	0-8	6-0	14-5	42-9	20-2	51-6	
	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	

Base = 379

BASIS FOR FIGURE 7.3

(iv) Recession—adults aged 16-34, with some natural teeth, who attend for a regular check-up

Gum condition		Adults aged 16-34, with some natural teeth, who attend for a regular check-up																			
		Upper Jaw										Lower Jaw									
		Left										Right									
		Molars		Premolars		Can-line	Incisors			Can-line	Premolars		Molars								
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8						
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%						
—	—	1.4	0.5	1.6	4.1	1.1	0.3	0.5	—	2.7	2.7	1.1	1.4	0.3	—						
51.1	88.3	66.9	82.3	85.0	92.6	93.2	94.5	94.6	93.4	93.2	84.5	82.0	71.3	88.0	43.7						
48.9	11.7	31.7	17.2	13.4	3.3	5.7	5.2	4.9	6.6	4.1	12.8	16.9	27.3	11.7	56.3						
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0						
Gum condition		Lower Jaw																			
		Left										Right									
		Molars		Premolars		Can-line	Incisors			Can-line	Premolars		Molars								
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8				
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%				
		—	—	0.5	0.5	2.2	1.4	0.5	0.5	0.3	1.1	1.9	0.8	0.5	—	—	—				
		51.4	81.4	59.9	82.3	92.9	98.1	98.4	98.1	98.1	98.1	92.1	84.7	56.6	79.8	48.4	—				
		48.6	18.6	39.6	17.2	4.9	0.5	1.1	1.4	1.4	1.6	0.8	6.0	14.5	42.9	20.2	51.6				
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0				

Base = 379

BASIS FOR FIGURE 7.4

(f) Calculus—adults aged 16–34, with some natural teeth, who attend only when they are having trouble

Adults aged 16-34, with some natural teeth, who attend only when they are having trouble																	
Upper Jaw																	
Gum condition	Left									Right							
	Molars			Premolars			Can- ine	Incisors			Can- ine	Premolars			Molars		
	8	7	%	5	4	3	2	1	1	2	3	4	5	6	7	8	
With calculus	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
Without calculus	7.2	14.1	11.7	5.4	4.2	6.0	5.4	4.8	3.9	4.5	4.8	3.6	4.2	8.1	14.7	5.7	
Tooth missing	46.1	62.2	40.1	65.6	74.2	83.5	80.2	84.1	84.4	79.6	87.4	71.3	68.6	43.1	62.8	46.4	
	46.7	23.7	48.2	29.0	21.6	10.5	14.4	11.1	11.7	15.9	7.8	25.1	27.2	48.8	22.5	47.9	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Lower Jaw																	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
With calculus	3.0	4.2	4.2	9.6	18.0	43.7	61.7	68.9	69.2	62.9	43.4	18.3	9.0	4.5	3.9	1.8	
Without calculus	49.4	59.3	34.1	66.4	73.9	53.9	36.2	29.0	29.6	36.5	53.9	74.2	68.8	55.0	59.9	46.1	
Tooth missing	47.6	36.5	61.7	24.0	8.1	2.4	2.1	2.1	1.2	0.6	2.7	7.5	22.2	60.5	36.2	52.1	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Base = 369

BASIS FOR FIGURE 7.4

(D) Gingivitis—adults aged 16-34, with some natural teeth, who attend only when they are having trouble

Gum condition		Adults aged 16-34, with some natural teeth, who attend only when they are having trouble																	
		Upper Jaw									Lower Jaw								
		Left									Right								
		Molars			Premolars			Canine			Incisors			Canine			Premolars		
		8	7	6	5	4	3	2	1	1	1	1	2	3	4	5	6	7	8
	%		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With gingivitis	9.3	12.0	9.6	10.5	11.4	15.3	17.1	14.1	13.5	15.9	15.6	11.4	9.3	10.2	12.9	6.3			
Without gingivitis	44.0	64.3	42.2	60.5	67.0	74.2	68.5	74.8	74.8	68.2	76.6	63.5	63.5	41.0	64.6	45.8			
Tooth missing	46.7	23.7	48.2	29.0	21.6	10.5	14.4	11.1	11.7	15.9	7.8	25.1	27.2	48.8	22.5	47.9			
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
		Lower Jaw																	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With gingivitis	6.0	6.3	5.4	9.0	13.5	24.3	28.4	29.9	31.4	30.5	25.4	13.5	7.5	5.1	6.6	3.3			
Without gingivitis	46.4	57.2	32.9	67.0	78.4	73.3	69.5	68.0	67.4	68.9	71.9	79.0	70.3	34.4	57.2	44.6			
Tooth missing	47.6	36.5	61.7	24.0	8.1	2.4	2.1	2.1	1.2	0.6	2.7	7.5	22.2	60.5	36.2	52.1			
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 369

BASIS FOR FIGURE 7.4

(III) Pocketing—adults aged 16-34, with some natural teeth, who attend only when they are having trouble

Gum condition		Adults aged 16-34, with some natural teeth, who attend only when they are having trouble																	
		Upper Jaw																	
		Left									Right								
		Molars			Premolars			Can-ine	Incisors			Can-ine			Premolars			Molars	
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8			
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
With pocketing	1.8	3.6	3.9	2.7	4.5	3.3	6.9	4.8	5.1	6.0	5.7	3.3	3.3	2.7	4.5	1.5			
Without pocketing	51.5	72.7	47.9	68.3	73.9	86.2	78.7	84.1	83.2	78.1	86.5	71.6	69.5	48.5	73.0	50.6			
Tooth missing	46.7	23.7	48.2	29.0	21.6	10.5	14.4	11.1	11.7	15.9	7.8	25.1	27.2	48.8	22.5	47.9			
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
		Lower Jaw																	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
With pocketing	3.6	2.4	2.4	3.0	4.8	6.6	8.4	9.9	9.9	8.4	5.7	3.9	2.4	1.8	2.7	1.2			
Without pocketing	48.8	61.1	35.9	73.0	87.1	91.0	89.5	83.0	88.9	91.0	91.6	88.6	75.4	37.7	61.1	46.7			
Tooth missing	47.6	36.5	61.7	24.0	8.1	2.4	2.1	2.1	1.2	0.6	2.7	7.5	22.2	60.5	36.2	52.1			
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			

Base = 369

BASIS FOR FIGURE 7.4

(iv) Recession—adults aged 16-34, with some natural teeth, who attend only when they are having trouble

Gum condition	Adults aged 16-34, with some natural teeth, who attend only when they are having trouble																
	Upper Jaw										Lower Jaw						
	Left					Right					Left					Right	
	Molars		Premolars		Can-ine	Incisors			Can-ine	Premolars		Molars		Premolars		Molars	
	8	7	6	5	4	3	2	1	1	1	2	3	4	5	6	7	8
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With recession	0.3	0.3	1.5	0.6	1.5	3.0	1.8	1.2	0.9	1.8	82.3	89.5	74.0	71.3	50.9	75.4	51.8
Without recession	53.0	76.0	50.3	70.4	76.9	86.5	83.8	87.7	87.4	82.3	89.5	74.0	71.3	50.9	75.4	51.8	47.9
Tooth missing	46.7	23.7	48.2	29.0	21.6	10.5	14.4	11.1	11.7	15.9	7.8	25.1	27.2	48.8	22.5	47.9	100.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Lower Jaw																	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With recession	0.3	0.9	0.6	0.9	2.7	3.6	3.6	5.1	5.1	4.8	2.7	1.2	1.8	0.3	—	0.6	—
Without recession	52.1	62.6	37.7	75.1	89.2	94.0	94.3	92.8	93.7	94.6	94.6	91.3	76.0	39.2	63.8	47.3	—
Tooth missing	47.6	36.5	61.7	24.0	8.1	2.4	2.1	2.1	1.2	0.6	2.7	7.5	22.2	60.5	36.2	52.1	—
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 369

BASIS FOR FIGURE 7.5

(1) Calculus—adults aged 35 or more, with some natural teeth, who attend for a regular check-up

Gum condition		Adults aged 35 or more, with some natural teeth, who attend for a regular check-up															
		Upper Jaw															
		Left								Right							
		Molars		Premolars		Can-ine		Incisors		Can-ine		Premolars		Molars			
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		
6.1	11.5	7.6	4.8	3.2	5.4	4.8	5.4	5.7	5.4	6.4	3.8	3.8	7.0	12.4	7.0		
38.2	48.1	30.3	49.3	57.6	77.7	70.4	72.9	75.2	74.5	79.6	59.6	50.7	35.0	49.7	36.3		
55.7	40.4	62.1	45.9	39.2	16.9	24.8	21.7	19.1	20.1	14.0	36.6	45.5	58.0	37.9	56.7		
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
		Lower Jaw															
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		
7.0	7.6	7.0	11.8	19.7	50.6	63.4	67.2	68.2	62.4	48.4	17.2	12.1	4.8	7.0	7.0		
41.7	44.3	28.4	55.4	69.5	48.8	31.5	25.2	24.8	32.5	49.7	70.4	54.5	26.7	45.9	41.4		
51.3	48.1	64.6	32.8	10.8	0.6	5.1	7.6	7.0	5.1	1.9	12.4	33.4	68.5	47.1	51.6		
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
With calculus																	
Without calculus																	
Tooth missing																	

Base — 314

BASIS FOR FIGURE 7.5

(10) Gingivitis—adults aged 35 or more, with some natural teeth, who attend for a regular check-up

Gum condition		Adults aged 35 or more, with some natural teeth, who attend for a regular check-up																	
		Upper Jaw									Lower Jaw								
		Left									Right								
		Molars			Premolars			Can-line			Incisors			Can-line			Premolars		
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8		
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With gingivitis	8.0	11.5	7.0	7.6	10.2	15.3	12.1	11.1	13.1	13.4	16.9	8.3	9.6	7.3	11.1	5.7			
Without gingivitis	36.3	48.1	30.9	46.5	50.6	67.8	63.1	67.2	67.8	66.5	69.1	55.1	44.9	34.7	51.0	37.6			
Tooth missing	55.7	40.4	62.1	45.9	39.2	16.9	24.8	21.7	19.1	20.1	14.0	36.6	45.5	58.0	37.9	56.7			
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
		Lower Jaw																	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With gingivitis	9.2	11.8	4.8	10.5	17.8	26.1	26.8	29.3	28.7	29.3	27.1	17.5	12.1	4.5	8.0	8.0			
Without gingivitis	39.5	40.1	30.6	56.7	71.4	73.3	68.1	63.1	64.3	65.6	71.0	70.1	54.5	27.0	44.9	40.4			
Tooth missing	51.3	48.1	64.6	32.8	10.8	0.6	5.1	7.6	7.0	5.1	1.9	12.4	33.4	68.5	47.1	51.6			
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			

Base = 314

BASIS FOR FIGURE 7.5

(III) Pocketing—adults aged 35 or more, with some natural teeth, who attend for a regular check-up

Gum condition		Adults aged 35 or more, with some natural teeth, who attend for a regular check-up															
		Upper Jaw								Lower Jaw							
		Left								Right							
		Molars				Premolars				Can-line				Incisors			
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With pocketing		4.8	8.3	4.1	5.1	6.1	8.0	8.0	6.7	7.3	7.0	8.9	6.1	3.5	4.8	6.4	4.1
Without pocketing		39.5	51.3	33.8	49.0	54.7	75.1	67.2	71.6	73.6	72.9	77.1	57.3	51.0	37.2	55.7	39.2
Tooth missing		55.7	40.4	63.1	45.9	39.2	16.9	24.8	21.7	19.1	20.1	14.0	36.6	45.5	58.0	37.9	56.7
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Gum condition		Lower Jaw															
		Left								Right							
		Molars				Premolars				Can-line				Incisors			
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With pocketing		6.1	4.8	3.2	6.4	8.0	12.7	9.9	9.6	8.9	9.9	12.4	7.6	6.4	1.9	4.1	5.4
Without pocketing		42.6	47.1	32.2	60.8	81.2	86.7	85.0	82.8	84.1	85.0	85.7	80.0	60.2	29.6	48.8	43.0
Tooth missing		51.3	48.1	64.6	32.8	10.8	0.6	5.1	7.6	7.0	5.1	1.9	12.4	33.4	68.5	47.1	51.6
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 314

BASIS FOR FIGURE 7.5

(w) Recession—adults aged 35 or more, with some natural teeth, who attend for a regular check-up

Gum condition		Adults aged 35 or more, with some natural teeth, who attend for a regular check-up															
		Upper Jaw															
		Left				Right											
		Molars		Premolars		Can- ine	Incisors			Can- ine		Premolars		Molars			
With recession Without recession Tooth missing	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	3-5	7-0	5-7	7-0	8-6	11-1	4-5	2-5	1-9	2-9	9-6	8-0	7-0	6-7	7-6	2-9	
	40-8	52-6	32-2	47-1	52-2	72-0	70-7	75-8	79-0	77-0	76-4	55-4	47-5	35-3	54-5	40-4	
	55-7	40-4	62-1	45-9	39-2	16-9	24-8	21-7	19-1	20-1	14-0	36-6	45-5	58-0	37-9	56-7	
With recession Without recession Tooth missing	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	
	Lower Jaw																
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	2-5	2-2	1-6	7-0	10-2	11-1	9-6	11-1	9-6	9-2	13-4	10-8	8-6	0-6	3-5	2-2	
	46-2	49-7	33-8	60-2	79-0	88-3	85-3	81-3	83-4	85-7	84-7	76-8	58-0	30-9	49-4	46-2	
Tooth missing	51-3	48-1	64-6	32-8	10-8	0-6	5-1	7-6	7-0	5-1	1-9	12-4	33-4	63-5	47-1	51-6	
	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	

Base = 314

CONDITION TOO INFREQUENT TO PRESENT DIAGRAMMATICALLY

(v) The distribution of loose teeth around the mouth, for adults aged 35 or more, with some natural teeth, who attend for a regular check-up

		Adults aged 35 or more, with some natural teeth, who attend for a regular check-up															
		Upper Jaw								Right							
		Left				Incisors				Can-ine				Premolars			
		Molars		Premolars		Can-ine		Incisors		Can-ine		Premolars		Molars		Molars	
Gum condition		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		44.3	59.6	37.9	54.1	60.8	83.1	75.2	78.3	80.9	79.9	86.0	63.4	54.5	42.0	62.1	43.3
With tooth loose Without tooth loose Tooth missing		55.7	40.4	62.1	45.9	39.2	16.9	24.8	21.7	19.1	20.1	14.0	36.6	45.5	58.0	37.9	56.7
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
		Lower Jaw															
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With tooth loose Without tooth loose Tooth missing		—	—	—	—	0.6	—	—	—	—	0.3	—	—	0.3	—	—	0.3
		48.7	51.9	35.4	67.2	88.6	99.4	94.9	92.4	92.7	94.9	98.1	87.6	66.3	31.5	52.9	48.1
		51.3	48.1	64.6	32.8	10.8	0.6	5.1	7.6	7.0	5.1	1.9	12.4	33.4	68.5	47.1	51.6
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 314

BASIS FOR FIGURE 7.6

(i) Calculus—adults aged 35 or more, with some natural teeth, who attend only when they are having trouble

		Adults aged 35 or more, with some natural teeth, who attend only when they are having trouble															
		Upper Jaw															
		Left				Right											
		Molars		Premolars		Can-line	Incisors		Can-line	Premolars		Molars					
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Gum condition		8.9	13.7	7.2	7.0	6.0	8.5	7.9	7.7	8.5	7.7	8.7	4.3	5.8	7.0	11.2	6.8
With calculus		28.4	21.3	11.0	28.2	29.8	50.9	47.0	51.5	52.2	49.4	52.0	32.3	30.0	15.4	22.5	23.8
Without calculus		62.7	65.0	81.8	63.8	64.2	40.6	45.1	40.8	39.3	42.9	39.3	63.4	64.2	77.6	66.3	69.4
Tooth missing		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
		Lower Jaw															
		Molars		Premolars		Can-line	Incisors		Can-line	Premolars		Molars					
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
With calculus		7.9	8.7	5.4	17.4	30.0	64.6	75.8	77.2	76.6	76.8	64.0	29.0	18.0	6.2	8.9	5.6
Without calculus		23.8	23.8	10.7	36.2	44.7	29.2	16.7	14.5	14.3	17.0	29.6	42.2	36.9	12.0	23.6	26.1
Tooth missing		68.3	67.5	83.9	46.4	25.3	6.2	7.5	8.3	9.1	6.2	6.4	28.8	45.1	81.8	68.5	68.3
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Base = 483

BASIS FOR FIGURE 7.6

(ii) Gingivitis—adults aged 35 or more, with some natural teeth, who attend only when they are having trouble

Gum condition		Adults aged 35 or more, with some natural teeth, who attend only when they are having trouble															
		Upper Jaw								Lower Jaw							
		Left				Right				Left				Right			
		Molars		Premolars		Canine		Incisors		Canine		Incisors		Premolars		Molars	
With gingivitis Without gingivitis Tooth missing	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	7.0	9.1	5.6	9.3	9.5	16.4	13.5	12.4	14.3	14.1	15.7	8.3	8.1	6.4	7.5	5.6	
	30.3	25.9	12.6	26.9	26.3	43.0	41.4	46.8	46.4	43.0	45.0	28.3	27.7	16.0	26.2	25.0	
	62.7	65.0	81.8	63.8	64.2	40.6	45.1	40.8	39.3	42.9	39.3	63.4	64.2	77.6	66.3	69.4	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
		Lower Jaw															
With gingivitis Without gingivitis Tooth missing	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	7.5	8.3	4.8	13.7	20.5	35.6	38.3	39.5	39.8	40.0	36.4	20.3	13.7	3.7	8.3	5.2	
	24.2	24.2	11.3	39.9	54.2	58.2	54.2	52.2	51.1	53.8	57.2	50.9	41.2	14.5	23.2	26.5	
	68.3	67.5	83.9	46.4	25.3	6.2	7.5	8.3	9.1	6.2	6.4	28.8	45.1	81.8	68.5	68.3	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Base = 483

BASIS FOR FIGURE 7.6

(III) Pocketing—adults aged 35 or more, with some natural teeth, who attend only when they are having trouble

Gum condition		Adults aged 35 or more, with some natural teeth, who attend only when they are having trouble																	
		Upper Jaw									Lower Jaw								
		Left						Right						Left					
		Molars			Premolars			Can-line			Incisors			Can-line			Premolars		
8	7	6	5	4	3	2	1	1	2	3	1	2	3	1	2	3	4	5	6
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
5-6	7-7	4-3	5-6	4-1	10-1	8-9	7-9	8-5	8-5	10-8	5-0	4-8	4-3	8-5	7-0	23-6	66-4	100-0	100-0
31-7	27-3	13-4	30-6	31-7	49-3	46-0	51-3	52-2	48-6	49-9	31-6	31-0	18-1	25-2	23-6	66-4	100-0	100-0	100-0
62-7	65-0	81-8	63-8	64-2	40-6	45-1	40-8	39-3	42-9	39-3	63-4	64-2	77-6	66-3	69-4	100-0	100-0	100-0	100-0
100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0
With pocketing		Lower Jaw																	
		Left						Right						Left					
		Molars			Premolars			Can-line			Incisors			Can-line			Premolars		
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	9	10
3-7	6-0	2-1	7-7	13-3	21-3	22-8	24-0	24-8	24-0	24-0	20-7	11-6	8-7	2-5	4-3	2-7	28-0	68-3	100-0
28-0	26-5	14-0	45-9	61-4	72-5	69-7	67-7	66-1	69-8	72-9	59-6	46-2	15-7	27-2	29-0	68-3	100-0	100-0	100-0
68-3	67-5	83-9	46-4	25-3	6-2	7-5	8-3	9-1	6-2	6-4	28-8	45-1	81-8	68-5	68-3	100-0	100-0	100-0	100-0
100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0

Base = 483

BASIS FOR FIGURE 7.6

(iv) Recession—adults aged 35 or more, with some natural teeth, who attend only when they are having trouble

Gum condition		Adults aged 35 or more, with some natural teeth, who attend only when they are having trouble																			
		Upper Jaw									Lower Jaw										
		Left									Right										
		Molars			Premolars			Can-ine	Incisors			Can-ine	Premolars			Molars					
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8						
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%				
4.6	8.3	6.2	5.0	4.3	10.6	4.3	5.0	5.4	5.4	9.5	4.1	5.6	5.8	6.0	3.7						
32.7	26.7	12.0	31.2	31.5	48.8	50.6	54.2	55.3	51.7	51.2	32.5	30.2	16.6	27.7	26.9						
62.7	65.0	81.8	63.8	64.2	40.6	45.1	40.8	39.3	42.9	39.3	63.4	64.2	77.6	66.3	69.4						
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0						
		Left									Right										
		Molars			Premolars			Can-ine	Incisors			Can-ine	Premolars			Molars					
		8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8				
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%				
With recession		3.3	5.2	2.3	9.7	16.1	21.9	21.1	24.8	23.4	21.7	22.2	13.3	10.4	2.1	4.8	2.3				
Without recession		28.4	27.3	13.8	43.9	58.6	71.9	71.4	66.9	67.5	72.1	71.4	57.9	44.5	16.1	26.7	29.4				
Tooth missing		68.3	67.5	83.9	46.4	25.3	6.2	7.5	8.3	9.1	6.2	6.4	28.8	45.1	81.8	68.5	68.3				
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0				

Base = 483

CONDITION TOO INFREQUENT TO PRESENT DIAGRAMMATICALLY
(c) The distribution of loose teeth around the mouth, for adults aged 35 or more, with some natural teeth, who attend only when they are having trouble

Gum condition		Adults aged 35 or more, with some natural teeth, who attend only when they are having trouble															
		Upper Jaw															
		Left				Right											
		Molars		Premolars		Can-ine		Incisors		Can-ine		Premolars		Molars			
With tooth loose Without tooth loose Tooth missing	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	0-6	0-6	0-8	0-8	0-6	1-2	0-8	1-0	1-0	1-7	1-4	0-8	0-4	1-0	0-2	0-4	
	36-7	34-4	17-4	35-4	35-2	58-2	54-1	58-2	59-7	55-4	59-3	35-8	35-4	21-4	33-5	30-2	
	62-7	65-0	81-8	63-8	64-2	40-6	45-1	40-8	39-3	42-9	39-3	63-4	64-2	77-6	66-3	69-4	
		100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	
		Lower Jaw															
With tooth loose Without tooth loose Tooth missing	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
	0-4	0-8	0-2	1-0	1-4	2-9	4-1	4-6	4-3	3-5	2-9	1-7	1-2	0-4	0-6	0-4	
	31-3	31-7	15-9	52-6	73-3	90-9	88-4	87-1	86-6	90-3	90-7	69-5	53-7	17-8	30-9	31-3	
	68-3	67-5	83-9	46-4	25-3	6-2	7-5	8-3	9-1	6-2	6-4	28-8	45-1	81-8	68-5	68-3	
	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	100-0	

Base = 483

APPENDIX F

THE DENTAL EXAMINATION CRITERIA

DIAGNOSTIC CRITERIA

1. Dental caries

In general, diagnosis was determined primarily by visual means. A special probe, with a smooth tip of diameter 0.7mm was provided, but the probe was only used to confirm or reject the visual diagnosis. Staining and pigmentation were not recorded.

Pit and fissure surfaces. If there was visual evidence of a lesion, this was confirmed by the use of a probe. If the lesion would admit the probe, or if the probe provided some evidence of softening at the base of the lesion, or if the lesion itself provided some resistance to the removal of the probe, then the lesion was deemed to be carious. Confirmation by the probe was not required where extensive opacity in the surrounding tooth structure indicated the clear presence of undermined enamel, even though the enamel lesion was small.

Smooth surfaces. Any break in the surface enamel had to be demonstrably soft to the probe before the lesion was considered to be carious. Fractures, hypoplastic areas, hard arrested caries and enamel etching, were not considered to be evidence of a frank carious lesion. Again, confirmation by the probe was not required where there was extensive opacity, especially in anterior teeth and other interproxal areas where the actual lesion was inaccessible.

If any doubt remained after applying the criteria for caries, the diagnosis made was 'sound'.

2. Periodontal condition

Gingival inflammation. Inflammation was deemed to be present around a tooth if the colour of the gingiva was demonstrably redder than healthy tissue in the same mouth, and if there was a loss of stippling in the area in question, which resulted in a 'shiny' appearance. Diagnosis was not made on the basis of loss of contour alone.

Periodontal pocketing. If the pocket was 3mm or more deep anywhere around a tooth, the diagnosis was positive. Pockets which were associated with the distal halves of last standing molars were ignored.

Calculus. Food debris was ignored, but the presence of any quantity of supra- or sub-gingival calculus was recorded as positive.

Gingival recession. If there was at least 3mm vertically between the amelocemental junction and the gingival collar anywhere around a tooth, the diagnosis was positive.

3. Dentofacial anomalies

Cleft palate —self-explanatory

Prognathism	—positive only if condition was considered to be disfiguring.
Deep overbite	—positive when, with jaws closed, the lower anterior teeth were almost or quite invisible behind the upper anterior teeth.
Crowding	—positive if any tooth had been forced entirely or almost entirely out of the line of the dental arch so that it was entirely non-functional. Minor irregularities were ignored.
Cleft lip	—self explanatory.
Retrognathism	—positive only if condition was considered to be disfiguring.
Open bite	—positive when a space of 3mm existed between the incisal edges of the upper and lower anterior teeth when the jaws are closed.
Spacing	—positive if each tooth in either arch is standing as an isolated unit, having no contact with its neighbours in that arch.

Any other conditions of interest were also recorded.

4. Dentures

Fit. The fit of the denture was recorded as unsatisfactory if, on opening the mouth, either denture was unseated, or if $\frac{1}{2}$ " or more movement was possible in any direction when the denture was seated against the supporting tissues. The fit was also recorded as unsatisfactory if, in occlusion, the dentures met in one or two places only. In all other cases the fit of the denture was recorded as satisfactory.

Care. The care of the denture was considered unsatisfactory if there was any evidence of long-standing staining, scale or debris. Very recent food debris was ignored.

Condition. The condition of the denture was considered unsatisfactory if there was any evidence of it being cracked, broken or chipped, or if it had any missing or worn out teeth.

Denture inflammation. Denture inflammation was recorded in three grades of severity, indicated by one, two or three positive sign recordings.

- + redness on or associated with a denture bearing surface in one place only—not exceeding an area of $\frac{1}{2}$ sq. cm.
- ++ as above but occurring in more than one place, or exceeding an area of $\frac{1}{2}$ sq. cm.
- +++ generalised inflammation over at least $\frac{1}{2}$ of the denture bearing surface.

Denture ulceration. Again there were three grades of severity, similarly denoted.

- + a break in the epithelial continuity on or associated with a denture bearing surface, in one place only and not exceeding an area of $\frac{1}{2}$ sq. cm.
- ++ as above but with two lesions present.
- +++ as above but with three or more lesions present, or any number of lesions exceeding $\frac{1}{2}$ sq. cm. in size.

Bone destruction. This is rare, but may be found in the palate of denture wearers using a suction pad.

- + mild destruction.
- ++ advanced destruction.
- +++ palatal perforation.

DENTAL EXAMINATION CHART CODES

1. Teeth

'Remarks' (Rem) Column: entries in this column refer to the whole tooth.

- M —Missing tooth.
- X —Decayed tooth for extraction i.e. past routine restoration.
- PX —For extraction due to periodontal disease.
- PC —Porcelain or Acrylic crown.
- GC —Gold crown.
- Br —Tooth replaced by bridge.
- Ab —Abutment tooth for bridge.
- ROT —Rotated tooth.
- Er —Erupting tooth (part but not all of the occlusal surface visible).
- DT —Dead tooth.
- RF —Root filled tooth.
- Fe —Fractured tooth, fracture in enamel only.
- Fd —Fractured tooth, fracture in dentine.
- Fp —Fractured tooth, fracture in pulp.
- H —Hypoplastic tooth.
- DIS —Grossly displaced tooth (reason noted).
- A —Abscess associated with tooth.

'Surface' Columns—Mesial (M), Occlusal (O), Distal (D), Lingual (L), and Buccal (B).

- X —Decayed surface.
- A —Amalgam filling.
- G —Gold filling.
- S —Porcelain or silicate or acrylic filling.
- AX } —Filled surface with decay also present.
- GX }
- SX }

2. Periodontal

- | | | |
|------------|-------------------|--|
| Gingivitis | 'G' column
'+' | Inflammation present round marked tooth. |
| Pocketing | 'P' column
'+' | Pocketing in excess of 3mm around marked tooth |
| Calculus | 'C' column
'+' | Calculus present around marked tooth. |
| Recession | 'R' column
'+' | Gingival recession in excess of 3mm from A/C junction. |

3. Dentures

- Column I* — A —dentures worn night and day.
 B —dentures worn day only.
 C —dentures worn irregularly
 (i.e. meals or 'company' only).
 D —dentures worn never or hardly ever.
- Columns II —* } A —satisfactory.
 III — } B —unsatisfactory.
 IV — }
- Column II* — 'aid' includes suction pads, pad buttons, and gum tragacanth (state which).

4. Denture Inflammation

- + mild.
 ++ moderate.
 +++ severe.

APPENDIX G

THE QUESTIONNAIRES

This appendix consists of the documents used in this inquiry. The information collected on them was given voluntarily and is confidential. It has been used for statistical purposes only, and consequently no particular individual can be identified as having taken part.

CONFIDENTIAL

MENTAL HEALTH
INTERVIEW QUESTIONNAIRE

Page

Address

Area No. Serial No. Person No.

--	--	--	--

IF PERSON NO. = 1

ENTER AT END
OF INTERVIEW

No. of
eligible
persons

--

No. of
interviews
included

--

Interviewer's Name Date of 1st Interview No. of calls

Auth. No. Date of Examination No. of calls

Total calls

IF NO INTERVIEW OBTAINED - WHY NOT?

IF NO EXAMINATION OBTAINED - WHY NOT?

We are interested in both natural teeth and false teeth, but first I would like to talk about natural teeth. This picture (HAND OVER CARD A) shows the natural teeth people can have. At the top people usually start off with 6 single front teeth, and then at each side 4 or 5 double, back teeth; at the bottom it is the same, 6 single front teeth and 4 or 5 double, back teeth on each side.

DEMONSTRATE ON CARD A

1. Have you still got some of your natural teeth or have you lost them all?

Has some natural teeth 1
ASK Q.2-10

Lost them all 4
GO TO
SUMMARY
CODES

IF ONE (1) ASK Q.2-10

IF ONE (4) GO TO SUMMARY CODES - BOTTOM OF PAGE 3

2. You probably know that the very back teeth on each side, both at the top and the bottom, is called a wisdom tooth. Some people get all 4 of these teeth early, some people get them late, and some people never get them at all. Which of YOUR wisdom teeth have, at some time, come through

Yes	No	DI	
top left	1	2	9
top right	3	4	9
bottom left	5	6	9
bottom right	7	8	9

..... has the one at the

I'd now like to talk about the teeth you have lost. The picture might help you.

TOP TEETH

3. Can I start with your top teeth, have you lost any of the 6 single front ones, at the top?

Lost some 4
Not 1

IF YES (A) Can you show me from the picture, which ones you have lost?

4. Have you lost any double teeth, at the top, on the left hand side?

Lost some 8
Not 2

IF YES (B) Can you show me from the picture, which ones you have lost?

5. Have you lost any double teeth, at the top, on the right hand side?

Lost some 0
Not 3

IF YES (D) Can you show me from the picture, which ones you have lost?

CROSS THROUGH MISSING TOP TEETH ON DIAGRAM

BOTTOM TEETH

6. Can I now ask about your bottom teeth, have you lost any of the 6 single front ones, at the bottom?

Lost some 2
Not 4

IF YES (E) Can you show me from the picture, which ones you have lost?

7. Have you lost any double teeth, at the bottom, on the left hand side?

Lost some 7
Not 5

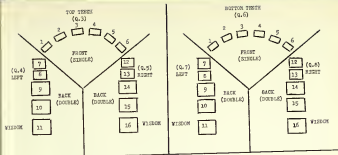
IF YES (F) Can you show me from the picture, which ones you have lost?

8. Have you lost any double teeth, at the bottom, on the right hand side?

Lost some 6
Not 6

IF YES (G) Can you show me from the picture, which ones you have lost?

CROSS THROUGH MISSING BOTTOM TEETH ON DIAGRAM



CHECK BEFORE GOING ON

9. I would like to ask about fillings or stoppings.

TOP TEETH

- (a) Do you have any fillings in any of your 6 front teeth at the top? Yes 1
No 9
- (b) Do you have any fillings in any of your back teeth, at the top, on the left? Yes 5
No 6
- (c) Do you have any fillings in any of your back teeth, at the top, on the right? Yes 7
No 8

BOTTOM TEETH

- (d) Do you have any fillings in any of your 6 front teeth at the bottom? Yes 1
No 9
- (e) Do you have any fillings in any of your back teeth, at the bottom, on the left? Yes 5
No 6
- (f) Do you have any fillings in any of your back teeth, at the bottom, on the right? Yes 7
No 8

IF GOT NO FILLINGS AT ALL

- (g) Have you ever had any fillings or stoppings? Has had fillings or stoppings 9
Has not 0

10. Have you ever had any partial dentures, that is false teeth on a plate? Has had partial dentures 3
Has not 2

OFFICE USE	TL	Top	TR	LR	Bottom	LL
11		4		16		3
10		5		15		2
9		6		14		1
8		12		13		7
7		13		12		6
6		14		11		5
5		15		10		4
4		16		9		3

SUMMARY CODES

USE Q.1 and Q.10

Q.1 CODE 1, Has natural teeth only 2
Q.1 CODE 1, Has (had) partial dentures 3
Q.1 CODE 4 = Lost all natural teeth 4
CONTINUE INTERVIEW WITH QUESTIONNAIRE 2, 3 ON 4 AS APPROPRIATE	

(a)	(b)	(c)	(d)	(e)	(f)	(g)

QUESTIONNAIRE

--	--	--	--	--

HAS NATURAL TEETH ONLY

SUMMARY CODE 2

11. Some people have a lot of trouble with their teeth

(If you were to)

- (a) When you are eating chocolates, or sweet things, do you get any twinges of toothache?

 Has twinges 1
 Does not 2

(If you were to)

- (b) When you are eating an ice cream, or drinking a very cold drink does this make your teeth ache?

 Yes 3
 No 6

- (c) Sometimes, if there are any holes in your teeth you can feel them with your tongue. As far as you know are there any holes in
- your
- teeth?

 Holes 7
 Not 8

- (4) When you are eating do you ever avoid using any of your teeth for any reason?

 Yes 3
 No 4

IF YES (3)

- (4) Can you tell me for what reasons you avoid them?

12. Over the last five years, have the gaps between your teeth got wider at all or not?

 Gaps got wider 1
 Not 2

13. Over the last five years, have your teeth come to look longer than they used to or not?

 Teeth look longer 4
 Do not 5

14. Do you think that any of your teeth are at all loose?

 Yes 7
 No 8

15. Apart from trouble with their teeth some people have trouble with their gums.

(a) Do your gums ever feel sore or tender?

Yes 2
No 0

(b) Do any parts of your gums ever look or feel swollen, for instance around one or two teeth?

Yes 4
No 0

IF YES (a)

(1) Do they feel or look swollen just occasionally or fairly often?

Swollen just occasionally 5
Swollen fairly often 5

(c) Do your gums ever bleed?

Yes 1
No 0

16. Do you have any kind of trouble with your gums or mouth which I haven't mentioned?

Yes 5
No 9

IF YES (b)

(1) What sort of trouble?

.....
.....
.....

17. If you were to go to the dentist tomorrow, do you think you would need some treatment, or no treatment at all?

Some treatment 4
No treatment at all 0

IF SOME TREATMENT (a)

(1) How many teeth would need treatment do you think?
WRITE IN ANY OTHER ANSWERS

Twelve

.....

.....

.....

.....

<p>18. (a) If you went to the dentist with an aching <u>back</u> tooth would you prefer the dentist to take it out or fill it?</p>	<p>Take it out 1 Fill it 2 Other (SPECIFY) 3</p>
<p>(b) If you went to the dentist with an aching <u>front</u> tooth would you prefer the dentist to take it out or fill it?</p>	<p>Take it out 4 Fill it 5 Other (SPECIFY) 6</p>
<p>(c) How long would you expect a filling in a tooth to last? Would you expect it to last a year, five years, ten years, or longer than ten years?</p>	<p>1 year 1 5 years 2 10 years 3 Longer 4 Other (SPECIFY) 5</p>
<p>19. If you were to lose all your back teeth, what would you prefer to do</p>	<p>..... message without false teeth 6 have false teeth just for the back 7 have the rest of your teeth out 8 and have all false teeth? 8 other (SPECIFY) 9</p>
<p>20. A lot of people eventually have to have full dentures; do you find the thought of having all false teeth</p>	<p>..... very upsetting 7 a little upsetting 8 not at all upsetting? 9</p>
<p>21. Do you know how much it costs you nowadays to have a full set of false teeth under the National Health Service?</p> <p>IF YES (A)</p> <p>(a) How much does it cost?</p>	<p>Yes A No 4</p>

22. We want to find out from people who were at least 20 before the war (1939), how they got their dental treatment in the days before the war.

(Can I check) were you born before 1919?

Born before 1919 1
Not 0 Go to 4.23

IF BORN BEFORE 1919 (1)

- (a) When you had a tooth that needed seeing to, in the days before the war, did you go to a dentist, or a hospital, or did you go somewhere else?

Dentist 3
Hospital 4
Both 5
Other (SPECIFY) 6

- (c) What were your reasons for choosing to go to?

- (b) Before the war did you ever belong to a Friendly Society, Benefit Society, Approved Society, Insurance Group or similar organisation?

Yes 1
No 0

IF YES (1)

- (i) What was the name of the one you belonged to?

- (ii) Did this organisation help with dental expenses?

Yes 7
No 8
D.K. 9

- (c) In the days before the war did you ever get any help towards the cost of dental treatment, or any free dental treatment?

Help or free 4
Not 5

IF HELP OR FREE (4)

- (i) Where did you get this from?

23. (a) When you were a child were you encouraged to clean your teeth

..... very much 1
 a fair amount 2
 not much 3
 not at all? 4

(b) Did you ever have your teeth looked at by a school dentist?

Looked at by school dentist 4
 Not 6

IF LOOKED AT BY SCHOOL DENTIST (A)

(1) Did you ever have any treatment through the school dentist?

Yes 7
 No 8

(c) Apart from the school dentist, did you see any other dentist, or go to a hospital for dental treatment, before you were 16 years old?

Yes 3
 No 4

IF YES (B)

(1) As a child, did you go to the dentist for

..... a regular check up 1
 an occasional check up 2
 or only when you were having trouble with your teeth? 3

24. (a) When you went to the dentist, as a child, did you ever have any unpleasant experiences?

Yes 6
 No 7
 Did not go 8

IF YES (5)

(1) What was it that made it unpleasant?

.....

(b) When you've been to the dentist, as an adult, have you ever had any unpleasant experiences?

Yes 8
 No 9
 Have not been 0

IF YES (9)

(1) What was it that made it unpleasant?

.....

25. (a) How often do you clean your teeth, now?		Never 0 Go to Q. 86
<p>(b) At what time of day do they clean them?</p> <p> RING ALL Before breakfast 1 </p> <p> SPONTANEOUSLY After breakfast 2 </p> <p> MENTIONED Midday 3 </p> <p> Tea time 4 </p> <p> After evening meal 5 </p> <p> Last thing at night 6 </p> <p> Other (SPECIFY) 7 </p> <p>IF MORNING ETC. ASK 'IS THIS BEFORE OR AFTER BREAKFAST?' AND MAKE A NOTE</p>		
(c) Do you use toothpaste, toothpowder, or something else to clean your teeth?		Toothpaste 1 Toothpowder 2 Other (SPECIFY) 3
<p>IF TOOTH PASTE OR TOOTH POWDER (1 OR 2)</p> <p>(1) What particular make are you using?</p> <p>(11) Does it contain fluoride, or not?</p> <p> Yes 7 No 8 D.K. 9 </p>		
(d) Is your toothbrush made of bristle or nylon?		Bristle 1 Nylon 2 D.K. 3
(e) When it was new, was your toothbrush hard, medium, or soft?		Hard or very hard 6 Medium 7 Soft 8 D.K. 9
(f) People clean their teeth in different ways, and some people wear out toothbrushes quickly and some people slowly. About how often do you have a new toothbrush?		
(g) Could you pretend that you have a toothbrush in your hand; can you show us just how you use it when you clean your teeth? RECORD DESCRIPTION.		
(h) INTERVIEWER DO YOU THINK THE METHOD OF CLEANING USED WAS		Definitely correct 6 Probably correct 7 Probably incorrect 8 Definitely incorrect 9
26. Has a dentist ever demonstrated to you how best to clean your teeth?		Yes 1 No 0
RECORD ANY COMMENTS		

27. (a)	Have you been to the dentist since the beginning of December that's about 6 months ago?	Under treatment now 9 Yes 1 No 8
IF NO (A)		
(b)	Have you been to the dentist since last May (June), that's about a year ago?	Yes 2 No 3
IF NO (B)		
(c)	About how long ago was your last visit to the dentist?	More than 1 up to 2 years ago 3 More than 2 up to 3 years ago 4 More than 3 up to 5 years ago 5 More than that (SPECIFY) 6 Never 0 Go to Q.101
28.	The last time you went to the dentist what made you go? Was it because you were having some trouble with your teeth or for a check up, or for some other reason?	Trouble with teeth 4 Check up 5 Other (SPECIFY) 1
29. (a)	In general do you go to the dentist for	a regular check up 7 an occasional check up 8 or only when you are having trouble with your teeth? 9
IF GOES FOR REGULAR CHECK UP (7)		
(b)	Does the dentist send you a reminder when it is time to go for your next check up?	Yes 1 No 2
(c)	Do you make the appointment for your next check up	at the end of your last set of treatment 4 when the dentist sends you a reminder 5 or when you feel it's time to go again? 6 other (SPECIFY) 7
IF GOES FOR OCCASIONAL CHECK UP (8) OR ONLY WHEN HAS TROUBLE (9)		
(d)	The last time you wanted to see a dentist how far ahead did you have to make the appointment with him, once you wanted one?	
IF ONLY GOES WHEN HAS TROUBLE (9)		
(e)	What is the main reason for you not going for a regular check up?	

30. When people go to the dentist for a check up, or because they've got trouble with their teeth, they sometimes have to make one visit and sometimes more than one visit.

(a) The last time you went to the dentist did you make one visit or several visits?

One visit 1
Several 2

IF SEVERAL (A)

(b) About how many visits did you make for that course (set) of treatment?

31. In (all) the visit(s) you made to the dentist (for that set of treatment) what did you have done?

SPONTANEOUS PRECIPITATED
Yes No D.K.

Examination (check) 5

X-ray 6 7 8 9

No. of fillings Fillings (stoppings) 1 2 3 4

No. of teeth Extractions (teeth out) 6 7 8 9

Scale (clean, scrape) and polish 1 2 3 4

Other (SPECIFY) 0

32. Was your treatment under the National Health Service or was it private?

National Health Service 1
Private 2
Other (SPECIFY) 3

33. Could you tell me how much the whole treatment cost you?

Yes 4
No 5

IF YES (A)

(a) How much did it cost?

34. (a) Did you feel very satisfied, fairly satisfied or not satisfied with the treatment you had?

Very satisfied 7
Fairly satisfied 8
Not satisfied 9

(b) What was it about the treatment that made you feel (as above)?

34. (a) Is there a particular dentist (or group of partners) whom you usually go to, or do you go to a different dentist each time you need treatment?

Usually same dentist (or group) 1
Different 2

IF USUALLY SAME DENTIST (1)

- (a) What is the address of the practice?

- (b) About how many miles is it from here? miles

- (c) What's the name of the dentist you go to?

- (d) Do you usually go to his direct from home or from work?

- (e) How long does it usually take you to get there?

- (f) How did you come to choose this particular dentist?

- (g) What do you like about your dentist? (RECORD SPONTANEOUS DISLIKES)

- (h) If you stay in this district will you continue to go to the dentist you go to now, or will you have a change?
Continue 8
Change 9

IF CHANGE (9)

- (i) What are your reasons for wanting to change?

IF GOES TO DIFFERENT DENTISTS (2)

- (j) Is it difficult to get an appointment with a dentist?

- (k) Why do you change your dentist?

35. Excluding the school dentist, about how many different dentists have you been to, in your lifetime?

Number

IF MORE THAN ONE

- (a) How many of these changes occurred because you wanted to try a different dentist?

36. (a) Have you ever had an injection to kill the pain when having a tooth filled?

Had injection 1
Not 2
Never had filling 3

- (b) Have you ever had an X-ray taken of any of your teeth?

Had X-ray 6
Not 7

37. Have you ever been sent, by a dentist, to a hospital for dental treatment?

Yes 1
No 0

IF YES (1)

- (i) How long ago is it since he sent you to the hospital? (LAST OCCASION)

time ago years mths.
(IF LESS THAN 2 YEARS)

- (ii) Why did he send you to the hospital?

38. (a) What do you find most unpleasant during a visit to the dentist?

- (b) What sort of qualities do you think make the best dentists? (sort of person)

CLASSIFICATION
TO ALL

No.	(a) Relationship to Informant	(b) Sex		(c) Age last birthday	(d) Marital Status			(e) Employment Status		
		M	F		M	S	W	7	8	9
1	INFORMANT	1	2	D. of B.	3	4	5	7	8	9
2		1	2		3	4	5	7	8	9
3		1	2		3	4	5	7	8	9
4		1	2		3	4	5	7	8	9
5		1	2		3	4	5	7	8	9
6		1	2		3	4	5	7	8	9

102. At what age did you finish full time education?

14 years or under 1
 15 years 2
 16 years 3
 17 years 4
 18 years or over 5
 Still being educated 6

103. IF BORN IN 1910 OR LATER
 What was your father's occupation at the time that you finished your education?
 (GIVE OCCUPATION AND INDUSTRY)

OCCUPATION

INDUSTRY

104. What is the occupation of H.O.B. IN CURRENT HOUSEHOLD
 (GIVE OCCUPATION AND INDUSTRY)

OCCUPATION

INDUSTRY

105. INTERVIEWER IS H.O.B. THE INFORMANT?

Yes 1
 No 2

IF YES (1)

(4) ARE THERE ANY YOUNG PERSONS AGED 16-21
 LAST BIRTHDAY IN THIS HOUSEHOLD?

Young persons 2
 Not 3

IF ANY YOUNG PERSONS (2)

(11) HOW MANY
 (111) PLEASE ARRANGE TO INTERVIEW ALL THOSE AGED
 16-21 BUT FINISH THIS INTERVIEW FIRST

106. The Ministry of Health is interested in knowing about peoples' teeth so that it can tell what dental services are required. As well as being interested in what you have said about your teeth the Ministry is also interested in some things which only a dentist looking at your teeth would see. Would you be willing to help us a little more in this? If so I would like to come back again, within the next week or two, with a dentist. The dentist would not do anything but look at your teeth. This would take less than 5 minutes, not nearly so long as I have been talking to you. The dentist would not undertake any treatment, and the results of the examination would be completely confidential. The results would be used by the Ministry to estimate the need for dental treatment throughout the country and the number of dentists that would be required to do it. Would you be willing to have this examination?

Willing to have examination 7
Not 0

IF WILLING (7)

107. Thank you for your co-operation. I shall be contacting you again within the next week or two. It is not possible for me to make an exact appointment but could you say,

(i) at what time of day you prefer us to call?

	Yes	No
Morning	1	0
Afternoon	2	3
Evening	4	5

(ii) and if there are any days of the week which would definitely not be suitable?

IF NOT WILLING (0)

108. NOTE ANY SPONTANEOUS COMMENTS

109. FOR THOSE TO BE EXAMINED (7)

Examination completed 1
Not 0

IF EXAMINATION NOT COMPLETED (0)

GIVE REASONS

QUESTIONNAIRE

HAS (PEDI)

DENTAL TENDENCIES

SUMMARY CODE 3

--	--	--	--	--

I'd like to talk to you first about your own teeth

11. (a) Some people have a lot of trouble with their natural teeth.
(If you were to)
When you are eating chocolates or sweet things do you get any
twinges of toothache?

Has twinges 1
Does not 2

(If you were to)

- (b) When you are eating an ice cream, or drinking a very cold drink
does this make your teeth ache?

Yes 5
No 6

- (c) Sometimes if there are any holes in your teeth you can feel them with
your tongue. As far as you know are there any holes in your teeth?

Holes 7
Not 8

- (d) When you are eating do you ever avoid using any of your natural
teeth for any reason?

Yes 3
No 4

IF YES (3)

- (1) Can you tell me for what reason you avoid them?

.....
.....

12. Over the last five years, have the gaps between your natural teeth
got wider at all, or not?

Gaps got wider 1
Not 2

13. Over the last five years, have your natural teeth come to look
longer than they used to, or not?

Teeth look longer 4
Do not 5

14. Do you think that any of your natural teeth are at all loose?

Yes 7
No 8

15. Apart from trouble with their natural teeth some people have trouble with their gums.

(a) Do your gums ever feel sore or tender?

Yes 2
No 0

(b) Do any parts of your gums ever look or feel swollen, for instance around one or two teeth?

Yes A
No 0

IF YES (A)

(1) Do they look or feel swollen just occasionally or fairly often?

Swollen just occasionally 5
Swollen fairly often 6

(c) Do your gums ever bleed?

Yes 1
No 0

16. Do you have any kind of trouble with your gums or mouth which I haven't mentioned?

Yes B
No 9

IF YES (B)

(1) What sort of trouble?

.....
.....
.....

17. If you were to go to the dentist tomorrow, do you think you would need some treatment, or no treatment at all?

Some treatment 1
No treatment at all 0

IF SOME TREATMENT (A)

(1) How many teeth would need treatment do you think?

Number

WRITE IN ANY OTHER ANSWERS

.....
.....
.....

18. (a) If you went to the dentist with an aching back tooth would you prefer the dentist to take it out or fill it?

Take it out 1
Fill it 2
Other (SPECIFY) 3

(b) If you went to the dentist with an aching front tooth would you prefer him to take it out or fill it?

Take it out 4
Fill it 5
Other (SPECIFY) 6

(c) How long would you expect a filling in a tooth to last? Would you expect it to last a year, five years, ten years, or longer than ten years?

A year 1
5 years 2
10 years 3
Longer 4
Other (SPECIFY) 5

19.

D.S.A.

20. (a) A lot of people eventually have to have full dentures; do you find the thought of having all false teeth

..... very upsetting 7
..... a little upsetting 8
..... not at all upsetting? 9

21. Do you know how much it costs you nowadays to have a full set of false teeth under the National Health Service?

Yes 1
No 4

IF YES (A)

(1) How much does it cost?

22. We want to find out from people who were at least 20 before the war (1939), how they got their dental treatment in the days before the war.

(Can I check) were you born before 1919?

Born before 1919 1
Not 0 Go to
Q.23

IF BORN BEFORE 1919 (1)

(a) When you had a tooth that needed seeing to, in the days before the war, did you go to a dentist, or a hospital, or did you go somewhere else?

Dentist 3
Hospital 4
Both 5
Other (SPECIFY) 6

(b) What were your reasons for choosing to go to?

(c) Before the war did you ever belong to a Friendly Society, Benefit Society, Approved Society, Insurance Group or similar organization?

Yes 1
No 0

IF YES (1)

(i) What was the name of the one you belonged to?

(ii) Did this organization help with dental expenses?

Yes 7
No 8
D.E. 9

(a) In the days before the war did you ever get any help towards the cost of dental treatment, or any free dental treatment?

Help or free 4
Not 5

IF HELP OR FREE (A)

(i) Where did you get this from?

23. (a) When you were a child were you <u>encouraged</u> to clean your teeth		
<div style="text-align: right;"> very much 1 a fair amount 2 not much 3 or not at all? 4 </div>		
(b) Did you ever have your teeth looked at by a school dentist?		
<div style="text-align: right;"> Looked at by school dentist..... A Not B </div>		
IF LOOKED AT BY SCHOOL DENTIST (A)		
(1)	Did you ever have any treatment through the school dentist?	
	<div style="text-align: right;"> Yes 7 No 8 </div>	
(c) Apart from the school dentist, did you see any other dentists, or go to a hospital for dental treatment, before you were 16 years old?		
<div style="text-align: right;"> Yes 9 No 10 </div>		
IF YES (9)		
(1)	As a child did you go to the dentist for	
	<div style="text-align: right;"> a regular check up 1 an occasional check up 2 or only when you were having trouble with your teeth? 3 </div>	
24. (a) When you went to the dentist, as a child, did you ever have any unpleasant experiences?		
<div style="text-align: right;"> Yes 6 No 7 Did not go 8 </div>		
IF YES (6)		
(1)	What was it that made it unpleasant?	
<div style="border: 1px solid black; height: 100px; width: 100%;"></div>		
(b) When you've been to the dentist, as an adult, have you ever had any unpleasant experiences?		
<div style="text-align: right;"> Yes 9 No 10 </div>		
IF YES (9)		
(1)	What was it that made it unpleasant?	
<div style="border: 1px solid black; height: 100px; width: 100%;"></div>		

25. (a) How often do you clean your natural teeth, how?	Never	0 Go to Q.26
<p>(b) At what time of day do you clean them?</p> <p>..... RING ALL</p> <p>..... SPONTANEOUSLY</p> <p>..... MENTIONED</p> <p>Before breakfast 1</p> <p>After breakfast 2</p> <p>Midday 3</p> <p>Tea time 4</p> <p>After evening meal 5</p> <p>Last thing at night 6</p> <p>Other (SPECIFY) 7</p> <p>IF WORKING ETC. ASK "IS THIS BEFORE OR AFTER BREAKFAST" AND MAKE A NOTE</p>		
(c) Do you use toothpaste, toothpowder, or something else to clean your natural teeth?	<p>Toothpaste 1</p> <p>Toothpowder 2</p> <p>Other (SPECIFY) 3</p>	28.
<p>IF TOOTHPASTE OR TOOTHPOWDER (1 OR 2)</p> <p>(1) What particular make are you using?</p> <p>.....</p> <p>(11) Does it contain fluoride, or not?</p> <p>Yes 7</p> <p>No 8</p> <p>D.K. 9</p>		
(d) Is your toothbrush made of bristle or nylon?	<p>Bristle 1</p> <p>Nylon 2</p> <p>D.K. 3</p>	29.
(e) When it was new, was your toothbrush hard, medium or soft?	<p>Hard or very hard 6</p> <p>Medium 7</p> <p>Soft 8</p> <p>D.K. 9</p>	
(f) People clean their teeth in different ways, and some people wear out toothbrushes quickly and some people slowly. About how often do you have a new toothbrush?		
(g) Could you pretend that you have a toothbrush in your hand; can you show me just how you use it when you clean your natural teeth? RECORD DESCRIPTION		
(h) INTERVIEWER DO YOU THINK THE METHOD OF CLEANING USED WAS	<p>Definitely correct 6</p> <p>Probably correct 7</p> <p>Probably incorrect 8</p> <p>Definitely incorrect 9</p>	
26. Has a dentist ever demonstrated to you how best to clean your natural teeth?	<p>Yes 1</p> <p>No 0</p>	

27. (a) Have you been to the dentist since the beginning of December, that's about 6 months ago? Total treatment now 9

Yes 1
No 8

IF NO (A)

(b) Have you been to the dentist since last May (June), that's about a year ago? Yes 2
No 3

IF NO (B)

(c) About how long ago was your last visit to the dentist? More than 1 up to 2 years ago 3
More than 2 up to 3 years ago 4
More than 3 up to 5 years ago 5
More than that (SPECIFY) 6

28. The last time you went to the dentist what made you go? Was it because you were having some trouble with your natural teeth, or for a check up, or for some other reason? Trouble with natural teeth 4
Check up 5
Other (SPECIFY) 1

29. (a) In general do you go to the dentist for a regular check up 7
an occasional check up 8
or only when you have trouble with your teeth? 9

IF GOES FOR REGULAR CHECK UP (7)

(b) Does the dentist send you a reminder when it is time for you to go for your next check up? Yes 1
No 2

(c) Do you make the appointment for your next check up at the end of your last set of treatment 4
when the dentist sends you a reminder 5
or when you feel it's time to go again? 6
other (SPECIFY) 7

IF GOES FOR OCCASIONAL CHECK UP (8) OR ONLY WHEN HAS TROUBLE (9)

(d) The last time you wanted to see a dentist how far ahead did you have to make the appointment with him, once you wanted one?

IF ONLY GOES WHEN HAS TROUBLE (9)

(e) What is the main reason for you not going for a regular check up?

30. When people go to the dentist for a check up, or because they've got trouble with their teeth, they sometimes have to make one visit and sometimes more than one visit.

(a) The last time you went to the dentist did you make one visit or several visits?

One visit 1
Several 4

IF SEVERAL (A)

(b) About how many visits did you make for that course (set) of treatment?

31. In (all) the visit(s) you made to the dentist (for that set of treatment) what did you have done?

SPONTANEOUS

PROMPTED

Yes No 1,2

Examination (check) 5

X-ray 6

No. of fillings Fillings (stoppings) 1

No. of teeth Extractions (teeth out) 6

Scale (clean, scrape) and polish 1

Fitting of new dentures 6

Repair of old dentures 1

Other (SPECIFY) 0

32. Was your treatment provided under the National Health Service or was it private?

National Health Service 1

Private 2

Other (SPECIFY) 3

33. Could you tell me how much the whole treatment cost you?

Yes 4

No 5

IF YES (A)

(a) How much did it cost?

34. (a) Did you feel very satisfied, fairly satisfied or not satisfied with the treatment you had?

Very satisfied 7

Fairly satisfied 8

Not satisfied 9

(b) What was it about the treatment that made you feel (as above)

34. (a) Is there a particular dentist (or group of partners) whom you usually go to, or do you go to a different dentist each time you need treatment?

Usually same dentist (or group) 1
Different 2

IF USUALLY SAME DENTIST (1)

(a) What is the address of the practice?

(b) About how many miles is it from here? miles

(c) What's the name of the dentist you go to?

(d) Do you usually go to him direct from home or from work?

(e) How long does it usually take you to get there?

(f) How did you come to choose this particular dentist?

(g) What do you like about your dentist? (RECORD SPONTANEOUS DISLIKES)

(h) If you stay in this district will you continue to go to the dentist you go to now, or will you have a change? Continue 8
Change 9

IF CHANGE (9)

(i) What are your reasons for wanting to change?

IF GOES TO DIFFERENT DENTISTS (2)

(j) Is it difficult to get an appointment with a dentist?

(k) Why do you change your dentist?

<p>35. Excluding the school dentist, about how many different dentists have you been to in your lifetime? Number</p> <p>IF MORE THAN ONE</p> <p>(a) How many of these changes occurred because you wanted to try a different dentist?</p> <p>.....</p>	
<p>36. (a) Have you ever had an injection to kill the pain when having a tooth filled?</p> <p style="text-align: right;">Had injection 1 Not 2 Never had filling 3</p> <p>(b) Have you ever had an X-ray taken of any of your teeth?</p> <p style="text-align: right;">Had X-ray 6 Not 7</p>	
<p>37. Have you ever been sent, by a dentist, to a hospital for dental treatment? Yes 1 No 2</p> <p>IF YES (1)</p> <p>(i) How long ago is it since he sent you to the hospital? (LAST OCCASION) time ago years months (IF LESS THAN 2 YEARS)</p> <p>(ii) Why did he send you to the hospital?</p> <p>.....</p> <p>.....</p> <p>.....</p>	
<p>38. (a) What do you find most unpleasant during a visit to the dentist?</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>(b) What sort of qualities do you think make the best dentists? (sort of person)</p> <p>.....</p> <p>.....</p> <p>.....</p>	

I would like to talk now about your partial dentures (false teeth)

50. (a) Are your dentures on a top plate, a bottom plate, or both? Top only 1
Bottom only 2
Both 3

IF TOP ONLY OR BOTH (1 OR 3)

- (b) Is the top plate made up of mainly front teeth, mainly back teeth, or is it a full top set? Mainly front teeth 6
Mainly back teeth 7
Full top set 8
Other (SPECIFY) 9

IF BOTTOM ONLY OR BOTH (2 OR 3)

- (c) Is the bottom plate made up of mainly front teeth, mainly back teeth, or is it a full bottom set? Mainly front teeth 1
Mainly back teeth 2
Full bottom set 3
Other (SPECIFY) 4

(Q.51 - D.F.A.)

52. Do you usually keep your false teeth in at night? Keeps teeth in at night 4
Does not 5

53. (a) Some people have difficulty in wearing their dentures (false teeth) all day.
Do you wear your dentures from the time when you get up to when you go to bed? All the day time 6
Not all day 7

IF NOT ALL DAY (7)

- (b) When do you wear them? (GIVE REASONS)

- (c) When do you not wear them? (GIVE REASONS)

54. Some people don't like the rest of their family to see them without their false teeth.
Does this worry you very much, to some extent, or not at all?

Very much 1
To some extent 2
Not at all 3

55. How long have you had the set of teeth you have now?

..... years months
(IF LESS THAN 2 YEARS)

56. Some people are fortunate with the fit of their false teeth and some people are not.

When you laugh do you have any difficulties with your false teeth?

Yes A
No 0

IF YES (A)

(1) What sort of difficulties?

57. When you smile do you have any difficulties with your false teeth?

Yes B
No 0

IF YES (B)

(1) What sort of difficulties?

58. Do you have any difficulties with your false teeth when you are talking?

Yes C
No 0

IF YES (C)

(1) What sort of difficulties?

59. Would you have any difficulties with your false teeth if you were showing teeth?

Yes D
No 0

IF YES (D)

(1) What sort of difficulties?

60. Would you have any difficulties with your false teeth if you were to bite into a raw apple?

Yes E
No 0

IF YES (E)

(1) What sort of difficulties?

61. Are there any other things you find difficult to do with false teeth?

Yes F
No 0

IF YES (F)

(1) What are they?

False teeth at the top, and false teeth at the bottom sometimes give different sorts of difficulties, so can I talk about them separately.

CHECK WHETHER PARTIAL DENTURES ARE ON TOP PLATE, BOTTOM PLATE, OR BOTH Q.90 PAGE 11

62. (a) In the last six months have your top false teeth hurt or made your mouth sore, or not?

Yes 4
No 0
No top plate 9

IF YES (A)

(1) In what ways?

(b) In the last six months have your bottom false teeth hurt or made your mouth sore, or not?

Yes 2
No 0
No bottom plate 9

IF YES (B)

(1) In what ways?

63. (a) Are your top false teeth loose (slack), or not?

Yes 1
No 2
No top plate 3
Other (SPECIFY) 4

(b) Are your bottom false teeth loose (slack), or not?

Yes 6
No 7
No bottom plate 8
Other (SPECIFY) 9

64. Would you say that, on the whole, you are very satisfied, fairly satisfied, or not satisfied with the way your false teeth fit?

Very satisfied 1
Fairly satisfied 2
Not satisfied 3

IF FAIRLY SATISFIED OR NOT SATISFIED (2 OR 3)

(1) Are you planning to visit the dentist to see if anything can be done to improve the fit?

Yes 6
No 9

IF NO (9)

(11) Why not?

99. (a) How old were you when you had your first false teeth on a plate?

..... years

(b) Did you need your first false teeth mainly for the sake of appearance or mainly to help you to eat?

Mainly for sake of appearance 4
Mainly to help you to eat 5

(c) How many more of your own teeth have you lost since you had your first false teeth on a plate?

Number

(d) How many sets of partial dentures have you had?

One set only 1 to 3
..... 4 to 17
Page 17

Number

IF MORE THAN ONE

(a) Were the first false teeth you had on a top plate, a bottom plate or both?

Top only 1
Bottom only 2
Both 3

IF TOP ONLY OR BOTH (1 OR 3)

(c) Was this top plate made up of mainly front teeth, mainly back teeth, or was it a full top set?

Mainly front teeth 6
Mainly back teeth 7
Full top set 8
Other (SPECIFY) 9

IF BOTTOM ONLY OR BOTH (2 OR 3)

(g) Was this bottom plate made up of mainly front teeth, mainly back teeth or was it a full bottom set?

Mainly front teeth 1
Mainly back teeth 2
Full bottom set 3
Other (SPECIFY) 4

CONT.

(b)

Did you have your second set of partial dentures because the first set broke, or because you had some more teeth out, or was it for some other reason?

REPEAT UNTIL COVERED ALL SETS OF PARTIAL DENTURES

2nd

1st set broke 1

Had more teeth out 2

Other (SPECIFY) 3

3rd

2nd set broke 4

Had more teeth out 5

Other (SPECIFY) 6

4th

3rd set broke 7

Had more teeth out 8

Other (SPECIFY) 9

(Q.65 - 71 - D.N.A.)

72. Did you get all your sets of dentures through the National Health Service or did you get them privately? (IF SOME OF EACH FIND OUT HOW MANY OF EACH)

All National Health Service 1
 All private 2
 Some of each (SPSCLT) 3

(Q.73 - 80 - D.N.A.)

83. (a) Do you find that it is difficult to keep false teeth clean or not?

Yes 1
 No 0

(b) How often do you clean your false teeth?

(c) Do you cook them, or not?

Cook them A
 Not 0

IF SOME THEN (A)

(1) What do you cook them in?

(d) Do you brush them, or not?

Brushes them B
 Not 0

IF BRUSHES THEN (B)

(1) What do you brush them with?

(e) Do you do anything else to keep them clean?

Yes C
 No 0

IF YES (C)

(1) What do you do?

(Q.90 - D.N.A.)

90. Are there any points or comments you would like to make about having (partial) dentures?

No 0

CLASSIFICATION

TO ALL

INT.
RING
HOM
NO.

No.	(a) Relationship to Informant	(b) Sex		(c) Age last birthday	(d) Marital Status			(e) Employment Status		
		M	F		M	S	W	P	F	N
1	INFORMANT	1	2	D. of B.	3	4	5	7	8	9
2		1	2		3	4	5	7	8	9
3		1	2		3	4	5	7	8	9
4		1	2		3	4	5	7	8	9
5		1	2		3	4	5	7	8	9
6		1	2		3	4	5	7	8	9

102. At what age did you finish full time education?

14 years or under 1
15 years 2
16 years 3
17 years 4
18 years or over 5
Still being educated 6

IF BORN IN 1942 OR LATER

103. What was your father's occupation at the time that you finished your education?
(GIVE OCCUPATION AND INDUSTRY)

OCCUPATION

INDUSTRY

104. What is the occupation of H.O.B. IN CURRENT HOUSEHOLD
(GIVE OCCUPATION AND INDUSTRY)

OCCUPATION

INDUSTRY

105. INTERVIEWER

IS H.O.B. THE INFORMANT

Yes 1
No 0

IF YES (1)

(1) ARE THERE ANY YOUNG PERSONS AGED 16-21
LAST BIRTHDAY IN THIS HOUSEHOLD?

Young persons 2
Not 3

IF ANY YOUNG PERSONS (2)

(11) HOW MANY

(111) PLEASE ARRANGE TO INTERVIEW ALL THOSE
AGED 16-21 BUT FINISH THIS INTERVIEW FIRST.

106. The Ministry of Health is interested in knowing about people's teeth so that it can tell what dental services are required. As well as being interested in what you have said about your teeth the Ministry is also interested in some things which only a dentist looking at your teeth would see. Would you be willing to help us a little more in this? If so I would like to come back again, within the next week or two, with a dentist. The dentist would not do anything but look at your teeth. This would take less than 5 minutes, not nearly so long as I have been talking to you. The dentist would not undertake any treatment, and the results of the examination would be completely confidential. The results would be used by the Ministry to estimate the need for dental treatment throughout the country and the number of dentists that would be required to do it. Would you be willing to have this examination?

Willing to have examination	7
Not	8

IF WILLING (7)

107. Thank you for your co-operation. I shall be contacting you again within the next week or two. It is not possible for me to make an exact appointment but could you say,

(i) at what time of day you prefer us to call?

	Yes	No
Morning	1	0
Afternoon	2	3
Evening	4	5

(ii) and if there are any days of the week which would definitely not be suitable?

IF NOT WILLING (8)

108. NOTE ANY SPONTANEOUS COMMENTS

109. FOR THOSE TO BE EXAMINED (7)

Examination completed	1
Not	0

IF EXAMINATION NOT COMPLETED (0)

GIVE REASONS

DENTAL HEALTH

QUESTIONNAIRE

HAS LOST ALL NATURAL TEETH

SUMMARY CODE 4

Area No. Serial No. Person No.

--	--	--	--	--

51. Could I check again, did you say you have a set of dentures (false teeth) or not?

Got false teeth 5 Go to 4.52
 Not 9

IF NOT (9)

- (i) Have you ever had any false teeth?

.....

.....

- (ii) Why haven't you got a set of false teeth (now)?

.....

.....

DD TD 4.65 Page 4

52. Do you usually keep your dentures (false teeth) in at night?

Keeps teeth in at night 4
 Does not 5

53. (a) Some people have difficulty in wearing their dentures (false teeth) all day.
 Do you wear your teeth from the time when you get up to when you go to bed?

All the day time 6
 Not all day 7

IF NOT ALL DAY (7)

- (b) When do you wear them? (GIVE REASONS)

.....

.....

- (c) When do you not wear them? (GIVE REASONS)

.....

.....

54. Some people don't like the rest of their family to see them without their teeth.
 Does this worry you very much, to some extent, or not at all.

Very much 1
 To some extent 2
 Not at all 3

55. How long have you had the set of teeth you have now?

..... years months
(IF LESS THAN 2 YEARS)

Some people are fortunate with the fit of their teeth and some people are not.

56. When you laugh do you have any difficulties with your teeth?

Yes A

No D

IF YES (A)

(1) What sort of difficulties?

57. When you run do you have any difficulties with your teeth?

Yes B

No D

IF YES (B)

(1) What sort of difficulties?

58. Do you have any difficulties with your teeth when you are talking?

Yes C

No D

IF YES (C)

(1) What sort of difficulties?

59. Would you have any difficulties with your false teeth if you were chewing meat?

Yes D

No D

IF YES (D)

(1) What sort of difficulties?

60. Would you have any difficulties with your false teeth if you were to
bite into a raw apple?

Yes E

No D

IF YES (E)

(1) What sort of difficulties?

61. Are there any other things you find difficult to do with false teeth?

Yes F

No D

IF YES (F)

(1) What are they?

Top teeth and bottom teeth sometimes give different sorts of difficulties, so can I talk about them separately.

62. (a) In the last six months have your top teeth hurt or made your mouth sore, or not?

Yes 4

No 0

IF YES (4)

(i) In what ways?

(b) In the last six months have your bottom teeth hurt or made your mouth sore, or not?

Yes 5

No 0

IF YES (5)

(i) In what ways?

63. (a) Are your top teeth loose (slack) or not?

Yes 1

No 2

Other (SPECIFY) 3

(b) Are your bottom teeth loose (slack) or not?

Yes 6

No 7

Other (SPECIFY) 8

64. Would you say that, on the whole, you are very satisfied, fairly satisfied, or not satisfied with the way your false teeth fit?

Very satisfied 1

Fairly satisfied 2

Not satisfied 3

IF FAIRLY SATISFIED OR NOT SATISFIED (2 OR 3)

(i) Are you planning to visit the dentist to see if anything can be done to improve the fit?

Yes 8

No 9

IF NO (9)

(ii) Why not?

65. We want to find out from people who were at least 20 before the war (1939), how they got their dental treatment in the days before the war.

(Can I check) were you born before 1919?

Born before 1919 1
Not 0 Go to
Q.66

IF BORN BEFORE 1919 (1)

- (a) When you had a tooth that needed seeing to, in the days before the war, did you go to a dentist, or a hospital, or did you go somewhere else?

Dentist 3
Hospital 4
Both 5
Other (SPECIFY) 6

- (1) What were your reasons for choosing to go to?

- (b) Before the war did you ever belong to a Friendly Society, Benefit Society, Approved Society, Insurance Group or similar organization?

Yes 1
No 0

IF YES (1)

- (1) What was the name of the one you belonged to?

- (11) Did this organization help with dental expenses?

Yes 7
No 8
D.K. 9

- (c) In the days before the war did you ever get any help towards the cost of dental treatment, or any free dental treatment?

Help or free 4
Not 5

IF HELP OR FREE (4)

- (1) Where did you get this from?

66. (a) When you were a child were you encouraged to clean your teeth

..... very much 1
 a fair amount 2
 not much 3
 or not at all? 4

(b) Did you ever have your teeth looked at by a school dentist?

Looked at by school dentist 4
 Not 6

IF LOOKED AT BY SCHOOL DENTIST (A)

(1) Did you ever have any treatment through the school dentist?

Yes 7
 No 8

(c) Apart from the school dentist, did you see any other dentists, or go to a hospital for dental treatment, before you were 16 years old?

Yes 8
 No 4

IF YES (B)

(1) As a child, did you go to the dentist for

..... a regular check up 1
 an occasional check up 2
 or only when you were having trouble with your teeth? 3

67. (a) When you went to the dentist as a child did you ever have any unpleasant experiences?

Yes 6
 No 7
 Did not go 0

IF YES (C)

(1) What was it that made it unpleasant?

(b) When you've been to the dentist, as an adult, have you ever had any unpleasant experiences?

Yes 8
 No 9

IF YES (D)

(1) What was it that made it unpleasant?

TO ALL

68. How many years ago did you have the last of your own teeth taken out?

A	DURING N.E.S.	[PRINT IF	Up to 5 years ago	1
			NECESSARY	More than 5 up to 10 years ago	2
				More than 10 up to 15 years ago	3
				More than 15 up to 20 years ago	4
B	BEFORE N.E.S.	[More than 20 years ago	5

69. How old were you then? - years

3	- GO TO Q.76 Page 10
4	- LAST TEETH OUT DURING N.E.S.

70. When you had the last of your own teeth out did you already have a part set of false teeth, or set?

Had part set 6
Had set 7 Go to
Q.71
Page 8

IF HAD PART SET (6)

(a) How old were you when you had your first false teeth on a plate (part set)?

years

(b) Did you need your first false teeth mainly for the sake of appearance or mainly to help you to eat?

Mainly for sake of appearance 4
Mainly to help you to eat 5

(c) Were the first false teeth you had on a top plate, on a bottom plate, or both?

Top only 1
Bottom only 2
Both 3

IF TOP ONLY OR BOTH (1 OR 3)

(d) Was this top plate made up of mainly front teeth, mainly back teeth, or was it a full top set?

Mainly front teeth 6
Mainly back teeth 7
Full top set 8
Other (SPECIFY) 9

IF BOTTOM ONLY OR BOTH (2 OR 3)

(e) Was this bottom plate made up of mainly front teeth, mainly back teeth, or was it a full bottom set?

Mainly front teeth 1
Mainly back teeth 2
Full bottom set 3
Other (SPECIFY) 4

CONT.

79. CONT.

IF HAD PART SET (6)

One set only I Go to
Q.71

- (f) How many part sets did you have
-
- before you had your first full set?

Number

IF MORE THAN ONE PART SET

- (g)

Did you have your second set of partial dentures because the first set
broke, or because you had some more teeth out, or was it for some other
reason?

REPEAT UNTIL COVERED ALL SETS OF PARTIAL DENTURES

2nd

1st set broke 1

Had more teeth out 2

Other (SPECIFY) 3

3rd

2nd set broke 4

Had more teeth out 5

Other (SPECIFY) 6

4th

3rd set broke 7

Had more teeth out 8

Other (SPECIFY) 9

TO ALL (A) 's

71.

How many full sets of teeth have you had altogether?

Number

IF MORE THAN ONE

(1)

Why did you have to have new ones?

72.

Did you get all your full sets of false teeth through the National Health Service, or did you get them privately? (IF SOME OF EACH FIND OUT HOW MANY OF EACH)

All National Health Service 1
 All private 2
 Some of each (SPECIFY) 3

73.

While you had your own teeth did you go to the dentist for regular check ups, occasional check ups, or only when you had trouble with your teeth?

Regular check ups 7
 Occasional checks 8
 Only when had trouble with teeth 9

74.

Do you know why the last of your teeth had to be taken out?

Yes A
 No C

IF YES (A)

(1)

Why did they have to be taken out?

75.

Did you suggest to the dentist that the last of your teeth should come out, or did he suggest this to you?

You suggested to dentist 7
 Dentist suggested to you 8
 Other (SPECIFY) 9

COPY.

TO ALL (A) *a

A

76. (a) When you lost the last of your own teeth, before having your full false set, how many teeth were there to be taken out?

Number _____

- (b) Were these all taken out together or were they taken out over a series of visits?

- (c) Did the same dentist who took out the last of your teeth fit your dentures?

Yes 1

No 2

IF NO (1)

- (d) Why not?

- (e) How long after you had the last of your own teeth cut did you have your false teeth?

77. Can we talk about the dentist who took out the last of your own teeth. Had you been to him before or was this the first time you had been to him?

Seen before 1

First time 2

IF FIRST TIME (2)

- (a) Did you have any difficulty in finding a dentist who would take you?

78.	When you had the last of your own teeth out, did you already have a part set of false teeth or not?	Had part set 6 Had not 7	
(1)	IF HAD PART SET (6) How old were you when you first had false teeth on a plate (part set)? years		
79.	When you had the last of your own teeth out did <u>you</u> suggest to the <u>dentist</u> that the teeth should come out, or did <u>he</u> suggest this to <u>you</u> ?	You suggested to dentist 7 Dentist suggested to you 8 Other (SPECIFY) 9	
80.	Can you remember how much you paid for your first, <u>full</u> set of false teeth?	Yes A No 0	
(1)	IF YES (A) How much did they cost?		
81.	How many full sets of false teeth have you had, altogether?	Number 1	
(1)	IF MORE THAN ONE Why did you have to have new ones?		

68. How long ago did you last go and see a dentist?

PROMPT IF
NECESSARY

Up to 5 years ago (SPECIFY)	1
More than 5 up to 10 years ago	2
More than 10 up to 15 years ago	3
More than 15 up to 20 years ago	4
More than 20 years ago	5 Go to 0.03

IF LAST WENT TO DENTIST UP TO 20 YEARS AGO (1,2,3,4)

- (a) The last time you wanted to see a dentist how far ahead did you have to make the appointment with him, once you wanted one?

- (b) For the treatment you needed at that time did you visit the dentist once, or several times?

Once	1
Several	2

IF SEVERAL (2)

- (c) About how many visits did you make for that course (set) of treatment?

- (c) In (all) the visit(s) you made to the dentist (for that set of treatment) what did you have done?

		SPONTANEOUS	INDUCED	
		Yes	No	D.K.
No. of teeth	Examination (check)	5		
	Extractions (teeth out)	6	7	8
	Fitting of new dentures	6	7	8
	Repair of old dentures	1	2	3
	Other (SPECIFY)	0		

- (d) Was your treatment provided under the National Health Service or was it private?

National Health Service	1
Private	2
Other (SPECIFY)	3

- (e) Could you tell me how much the whole treatment cost you?

Yes	4
No	5

IF YES (4)

- (f) How much did it cost?

- (g) Did you feel very satisfied, fairly satisfied or not satisfied with the treatment you had?

Very satisfied	7
Fairly satisfied	8
Not satisfied	9

- (h) What was it about the treatment that made you feel (see above)

83. Is there a particular dentist (or group of partners) whom you usually go to, or do you go to a different dentist each time you need treatment?

Usually same dentist (or group) 1
 Different 2

IF USUALLY SAME DENTIST (1)

- (a) What is the address of the practice?
- (c) What's the name of the dentist you go to?
- (b) About how many miles is it from here? miles

84. Excluding the school dentist, about how many different dentists have you been to in your lifetime?

Number

IF MORE THAN ONE

- (a) How many of these changes occurred because you wanted to try a different dentist?

85. When you had your own teeth, did you ever have any of them filled or stopped?

Had some filled (or stopped) 1
 Did not 3

IF HAD SOME FILLED (1)

- (a) Did you ever have an injection to kill the pain when having a tooth filled?
- Had injection 1
 Not 2
- (b) Did you ever have an X-ray taken of your natural teeth?
- Had X-ray 6
 Did not 7

86. Have you ever been sent, by a dentist, to a hospital for dental treatment?

Yes 1
 No 0

IF YES (1)

- (i) How long ago is it since he sent you to the hospital? (LAST OCCASION) time ago years months (IF LESS THAN 2 YEARS)
- (ii) Why did he send you to the hospital?

87. What do you find most unpleasant during a visit to the dentist?

88. What sort of qualities do you think make the best dentists?
(sort of person)

89. (a) Do you find that it is difficult to keep false teeth clean or not?

Yes 1

No 0

(b) How often do you clean your false teeth?

(c) Do you soak them, or not?

Soaks them 1

Not 0

IF SOAKS THEM (A)

(1) What do you soak them in?

(d) Do you brush them, or not?

Brushes them 1

Not 0

IF BRUSHES THEM (C)

(1) What do you brush them with?

(e) Do you do anything else to keep them clean?

Yes 0

No 0

IF YES (C)

(1) What do you do?

90. Do you know how much it would cost you nowadays to have a full set of false teeth under the National Health Service?

Yes 3

No 4

IF YES (3)

(1) How much does it cost?

91. Are there any points, or comments, which you would like to make about having false teeth?

No 0

CLASSIFICATION

TO ALL

101.

INT
RING
BOX
NO.

No.	(a) Relationship to Informant	(b) Sex		(c) Age last birthday	(d) Marital Status			(e) Employment Status		
		M	F		M	S	W	P	F	X
1	INFORMANT	1	2	D. of B.	3	4	5	7	8	9
2		1	2		3	4	5	7	8	9
3		1	2		3	4	5	7	8	9
4		1	2		3	4	5	7	8	9
5		1	2		3	4	5	7	8	9
6		1	2		3	4	5	7	8	9

102. At what age did you finish full time education?

14 years or under 1
 15 years 2
 16 years 3
 17 years 4
 18 years or over 5
 Still being educated 6

103. IF DONE IN 1910 OR LATER
 What was your father's occupation at the time that you finished your education?
 (GIVE OCCUPATION AND INDUSTRY)

OCCUPATION

INDUSTRY

104. What is the occupation of H.O.B. IN CURRENT HOUSEHOLD
 (GIVE OCCUPATION AND INDUSTRY)

OCCUPATION

INDUSTRY

105. INTERVIEW

IS H.O.B. THE INFORMANT?

Yes 1
 No 0

IF YES (1)

(1) ARE THERE ANY YOUNG PERSONS AGED 16-21
 LAST BIRTHDAY IN THIS HOUSEHOLD?

Young persons 2
 Not 3

IF ANY YOUNG PERSONS (2)

(11)

HOW MANY

(111)

PLEASE ARRANGE TO INTERVIEW ALL THOSE
 AGED 16-21 BUT DEFER THIS INTERVIEW FIRST

TO ALL

86. The Ministry of Health is interested in knowing about peoples' dentures so that it can tell whether these people with false teeth have adequate teeth and are satisfied with them. As well as being interested in what you have said about your dentures the Ministry is also interested in some things that only a dentist looking at your dentures would see. Would you be willing to help a little more in this? If so I would like to come back again, within the next week or two, with a dentist. The dentist would not do anything but look at your teeth. This would take less than 5 minutes, not nearly so long as I have been talking to you. The dentist would not carry out any adjustments to your dentures, and the results of the examination would be completely confidential. The results would be used by the Ministry to estimate the amount of work which needs to be done on dentures throughout the country and the number of dentists that would be required to do it. Would you be willing to have this examination?

Willing to have examination 7
 Not 8

IF WILLING (7)

177. Thank you for your co-operation. I shall be contacting you again within the next week or two. It is not possible for me to make an exact appointment but could you say, Yes No

(i) at what time of day you prefer us to call? Morning 1 ... 0
 Afternoon 2 ... 3
 Evening 4 ... 5

(ii) and if there are any days of the week which would definitely not be suitable?

IF NOT WILLING (8)

108. NOTE ANY SPONTANEOUS COMMENTS

109. FOR THOSE TO BE EXAMINED (7)

Examination completed 1
 Not 0

IF EXAMINATION NOT COMPLETED (0)

GIVE REASONS

Name _____

Journal Number

TEETH

Name

Serial Number

TOOTH	Rm.	M	O	D	L	B	G P C R				R
							G	P	C	R	
8							8	8			0
7							7	7			7
6							6	10	6		6
5							5	17	5		5
4							4	12	4		4
3							3	10	3		3
2							2	14	2		2
1							1	15	1		1
1							1	15	1		1
2							2	17	2		2
3							3	19	3		3
4							4	19	4		4
5							5	20	5		5
6							6	21	6		6
7							7	22	7		7
8							8	23	8		8

TOOTH	Rm.	M	O	D	L	B	G P C R				R
							G	P	C	R	
8							8	24	8		8
7							7	25	7		7
6							6	26	6		6
5							5	27	5		5
4							4	28	4		4
3							3	29	3		3
2							2	30	2		2
1							1	31	1		1
1							1	32	1		1
2							2	33	2		2
3							3	34	3		3
4							4	35	4		4
5							5	36	5		5
6							6	37	6		6
7							7	38	7		7
8							8	39	8		8

LEFT

UPPER

RIGHT

RIGHT

LOWER

LEFT

Male ☐ 1
Female ☐ 2

Date of Birth

Day

Month

Year

RING

DFA	DENTOFACIAL ANOM.
0	No. TRT RECD.
1	CLEFT PALATE
2	PROGNATHISM
3	DEEP OVERBITE
4	CROWDING
5	CLEFT LIP
6	RETROGNATHISM
7	OPEN BITE
8	SPACING
9	OTHER

Denture	Age	I Comfort	II Fit	III Care	IV Cond.
Upper F P		A B C D	A B Aid	A B	A B
Lower F P		A B C D	A B Aid	A B	A B

OCENTURE INFLAMMATION

UPPER LOWER

INFLAMMATION	
ULCERATION	
SOME DESTRUCTION	

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